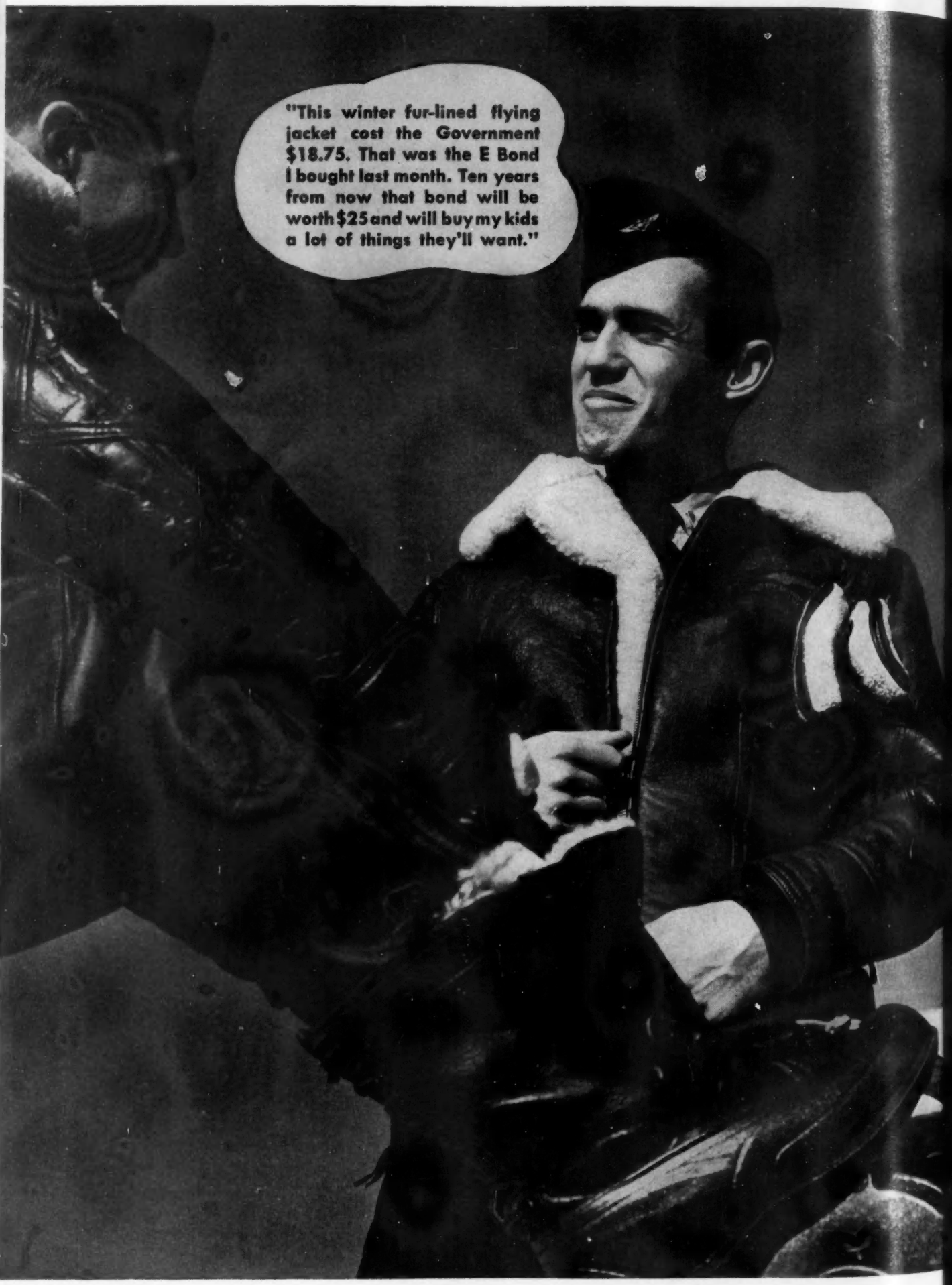
hygeia

The Health Magazine of the American Medical Association

M-A-R-C-H

REHABILITATION OF AIR FORCE PERSONNEL

By Capt. E. V. Gildea


"This winter fur-lined flying jacket cost the Government $18.75. That was the E Bond I bought last month. Ten years from now that bond will be worth $25 and will buy my kids a lot of things they'll want."

If he can do it,

so can you.

$18.75 now buys the Government a winter fur-lined flying jacket—or a 75-mm. high-explosive shell—or a gas mask—or an overcoat for a U.S. Marine.

This $18.75 becomes $25.00 when it is returned to you ten years from now and will buy you a lot of things your family could use.

It's the patriotic thing to do

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FORECAST

THE $35,000 QUESTION

By Will O'Neil

Is this man mentally and emotionally fit for military service or not? A wrong answer by induction station physicians may cost $35,000—the amount spent to maintain each man who became a neuropsychiatric disability in the last war. New methods of getting the right answer have just been devised and are described in this HYGEIA article next month.

WARTIME PROBLEMS OF CHILDREN

By Frank L. Beals

There are ways of curbing juvenile delinquency before it becomes delinquency—by identifying school children with behavior problems, segregating them and correcting or treating the causes of their bad behavior. Mr. Beals tells how one public school system is doing this.

ANESTHESIA BY VEIN

By Capt. H. M. Ausherman

Introduced ten years ago, intravenous anesthetics have grown rapidly in use and popularity for certain operative procedures. Captain Ausherman describes the many advantages of this method.

EYES RIGHT!

By H. Wallace Lane

In this message for parents, Dr. Lane emphasizes the importance of finding out whether or not children can see as they should and correcting visual defects early in life. Avoidable loss of sight is often the tragic price of neglect.

WHAT GOES ON IN A MORON'S MIND?

By Lieut. Daniel H. Harris

There are thousands of adults in the United States who think that Columbus invented the airplane, that Huey Long was once President, that Brazil is in Egypt and Egypt is in India. These and other quaint beliefs have been revealed in the Navy's psychometric examinations, described for HYGEIA readers in Lieutenant Harris' coming article.

hygeia

THE HEALTH MAGAZINE

535 N. DEARBORN ST., CHICAGO 10, ILL.

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To Share with Them the Fight

Into the hands of Surgeons, Physicians and Pharmacists, America has given a sacred trust, to share with our fighting men their great crusade for freedom.

It is not alone a trust to save lives on battle-fronts across the world, to assuage the pain of wounds, prevent infection, restore the normal flow of blood.

It is a trust, as well, to safeguard the lives and health of those who share with them the fight, here in America.

This is no new thing for these professions. They have shared with all humanity, for centuries, the fight against disease and suffering and death. They have shared it through pestilence and famine, through peacetime and war.

For eighty-five years the House of Squibb, in voluntary association with the Surgical, Medical and Pharmaceutical Professions, has shared the fight for humanity.

And in the days of peace to come, the House of Squibb will carry on with them the fight—guided by this principle:

The right to serve is man's one freedom that must never be denied. For out of free men's devotion to their self-appointed tasks have come the great gifts to all mankind.

E·R·SQUIBB & SONS

The Priceless Ingredient of Every Product is the Honor and Integrity of its Maker

Pete Feeds Pat *with* Evenflo

To save time, Mrs. James Whiskeman, Kirkwood, Mo., has trained Pete to feed little Patricia. Pete's only job is to keep the Evenflo Nurser tilted. Baby sister finds it easy to nurse modern Evenflo. Its air valve insures proper passage of food through nipple when nursed. Mother, too, likes Evenflo's handy sealing cap. It is easy for her to prepare a day's food supply at one time. Complete unit (nipple, bottle, cap, all-in-one) 25c at baby shops, drug and dept. stores.

The Pyramid Rubber Co.
Ravenna, Ohio

WHO'S WHO IN hygeia

During the present war, COL. WALTER S. JENSEN, Medical Corps, United States Army, has served in Alaska and in the Soviet Union; since April 1942 he has been on duty in the office of the Air Surgeon, U. S. Army Air Forces—first as Executive Officer and, since last August, as Deputy Air Surgeon. A graduate of the Army Medical School, the Medical Field Service School and the School of Aviation Medicine, Colonel Jensen served the last named institution for four years as director of the department of psychiatry. He was a medical officer with the famed Rainbow Division in France in 1917-18, and has had tours of duty at various general and station hospitals throughout the United States, Newfoundland and the Canal Zone. "I believe the time is coming when human beings will be as well equipped to fly in the stratosphere as airplanes are at the present time," Colonel Jensen says. "This vast war shows signs of producing not only blood and sweat and tears but new benefits for mankind, both in flight and on the ground." For details of Colonel Jensen's informed opinions, turn to "Aviation Medicine," on page 192.

GLADYS PATRIC SHAHOVITCH, M.D., learned a part of what she knows and tells about louse-borne disease ("Lice—The Ancient Enemy of Man," page 176) in Jugoslavia during the years immediately following World War I. While the typhus epidemic in Jugoslavia was over by the time she went there following a year's work with the Serbian government in 1919, its results were still clearly visible. Moreover—"I saw the gratitude of the people for the help they had had from the English speaking nations," Dr. Shahovitch says. "I knew that the peasantry would never fight against the English speaking nations—the typhus work was a lasting contribution to international goodwill made by the medical profession."

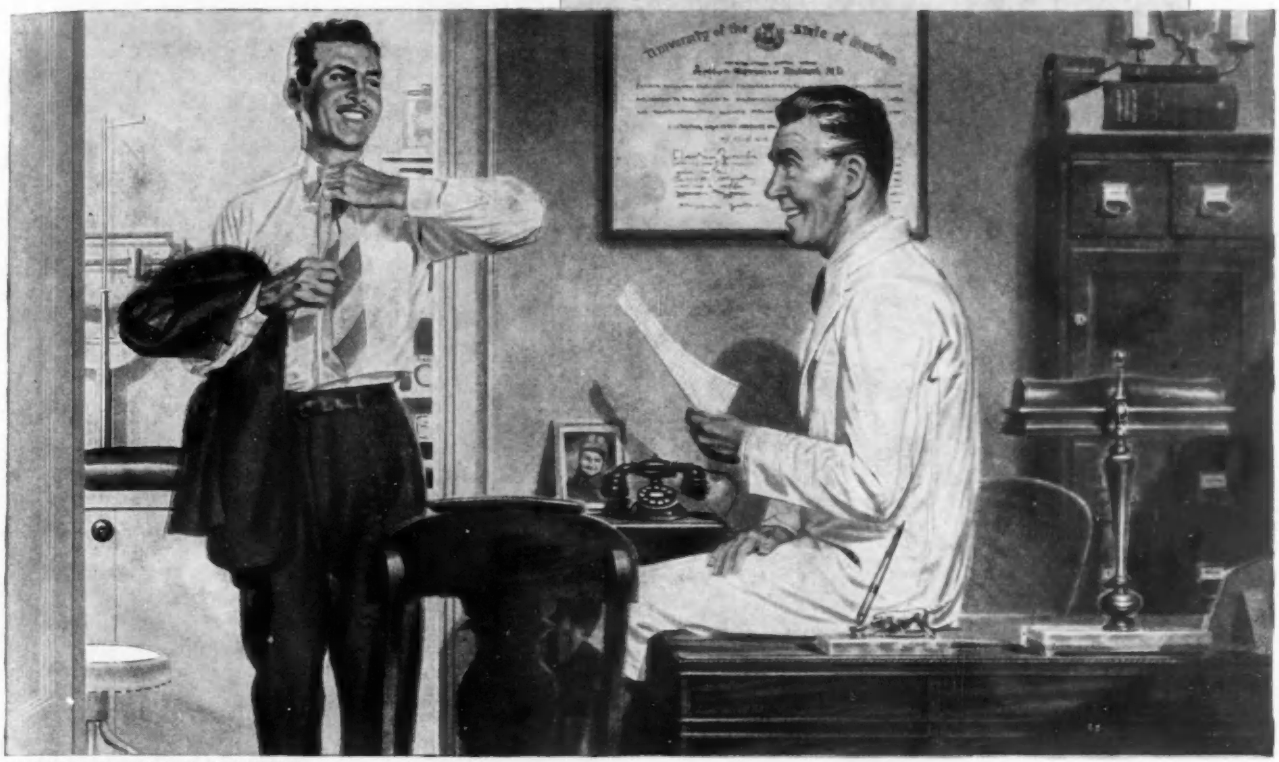
Back in America, Dr. Shahovitch has been a physician for the Los Angeles Board of Education since 1925—thus combining the educational fruits of two careers: She taught school before she studied medicine at the University of Southern California, where she was graduated from the College of Medicine in 1912.

Three children, a husband and a home keep a girl busy, writes DOROTHY KEMPS in reply to an inquiry about her personal life. To guarantee that things won't slow up around the house, Mrs. Kemps does stenographic work for her husband, serves diligently on the executive board of the Glendale Hospital Auxiliary (see "Hospitalization on the Honor System," page 180) and is joining an evening class for Nurse's Aides. Still in her twenties, Mrs. Kemps is described by one of the medical officers as "one of the most active and efficient members of the hospital auxiliary's board." Her own explanation of the time and effort she devotes to the hospital's needs is simple: "I love the work." A woman of many enthusiasms, Mrs. Kemps puts children at the head of her long list of interests. "Wish I could always have one under a year old," she adds. With a girl 6 and boys 4 and 2, she's doing her best!

MAUD WILSON, author of "Children and Fire," on page 224, is a graduate of the University of Nebraska and the University of Chicago's postgraduate course in household administration. For the past eighteen years she has been professor of home economics research of the Oregon State Agricultural Experimental Station at Corvallis, Ore., a part of Oregon State College. Results of Miss Wilson's work have been published from time to time in bulletins of the Station and of the United States Department of Agriculture.

(Continued on page 168)

When your doctor knows you . . .



COPYRIGHT 1944, THE UPJOHN COMPANY

The more intimately acquainted your doctor is with you and your medical history, the better able he is to help you keep well and to restore you to health when you are sick.

Knowing significant medical facts about you is important in judging the possible effects which your past illnesses might have upon a present one. It helps him to determine whether the special medical problems which are characteristic of each period of life are likely to affect you, and to treat such conditions more effectively by discovering them early.

It is to your interest to see that your doctor has the opportunity to keep his information about you up to date. You can do this by permitting him to make periodic physical examinations of you.

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★ ★ FINE PHARMACEUTICALS SINCE 1886 ★ ★

Use FRESH and stay fresher!

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Make your own test! Prove to yourself that FRESH #2 is the best underarm cream you have ever used. If you don't agree, your dealer will gladly refund your full purchase price.

Two sizes—50¢—25¢

FRESH #2

NEW DOUBLE-DUTY CREAM • REALLY STOPS PERSPIRATION • PREVENTS ODOR

Letters from Readers

On the Same Page, Too!

To the Editor:

Will you please reconcile two apparently contradictory statements which are printed on page 656 of the September 1943 HYGEIA? The first statement, in column 1, says: "Cheese . . . should remain uncovered in the refrigerator." The second statement, in column 3, says: "Cheese . . . should not be left uncovered."

R. H. BARBER
Washington, D. C.

Boner. Most housewives prefer to keep foods like cheese covered in the refrigerator to keep the aroma and flavor from being transmitted to other foods. If not kept too long, they will seldom mold.—ED.

Share the Wealth

To the Editor:

HYGEIA is a "close friend"—I take a deep interest in anything that pertains to health. We let others in our family circle take our copies, then pass them on to the next family—but every one is requested to return the magazines to us when they are through with them. We save every copy.

MRS. WALTER BANY
Elgin, Minn.

Classroom Use

To the Editor:

We need forty copies of HYGEIA each month for use in our physiology and "Human Science" classes here at Southwest High School.

W. L. CANNON
Kansas City, Mo.

For Student Nurses

To the Editor:

We receive HYGEIA regularly at the nurses' residence. Our students read and use the magazine in their health education courses, and at the end of the year the copies are bound and placed in our library for reference. I like to have the younger students read it particularly because the articles are written in terms they can understand readily before they have acquired a professional vocabulary.

MARY J. WALTHOUR, R.N.
Worcester City Hospital
Worcester, Mass.

Old Acquaintance

To the Editor:

I became acquainted with HYGEIA while studying biology, physical education and related subjects in

Billy is taking a beating this morning!

GEOMETRY'S just too tough! Angles and tangents, arcs and squares, all blurred and confused. The "unknown quantity" is really an *unseen* quantity for Billy. But worst of all, Billy doesn't realize what his trouble is. He only knows he doesn't like geometry.

"Maybe he isn't cut out to be a student." Do you make such excuses for your child? Can it be that he really is a good student . . . that his failures are your responsibility?

A competent eye examination may be the turning point in your child's life. Poor vision can mean more than low school grades, headaches and eye strain. His entire outlook on life, his confidence in himself, may be completely undermined by the handicap and uncertainty of uncared-for eyesight.

You owe him every chance for happiness and success. Have his eyes examined today.

Soft-Lite Lenses are prescription ground in single vision or bifocal forms. They are made by Bausch & Lomb solely for the Soft-Lite Lens Company.

If there is delay in filling your prescription for Soft-Lite Lenses, please be patient. Skilled optical craftsmen who make and grind them are busy on war work too.

Sensitive, Chapped Skin

Does your skin have a tendency toward chapping and sensitivity during the winter months? Then you will find Marcelle Skin Lubricating Cream a welcome aid in keeping your skin soft and smooth. Apply this delightful cream generously to the face and throat to discourage chapped skin. For chapped hands and elbows, use Marcelle Hand Cream or Marcelle Special Hand Lotion, depending on your preference for a cream or a lotion.

Women with sensitive skins often find relief through the daily use of Marcelle hypo-allergenic Cosmetics, since known allergens have either been removed or reduced to a minimum. Marcelle hypo-allergenic Cosmetics have been accepted for advertising in publications of the American Medical Association for 12 years. They are prescribed by physicians.

Send a dime and your name on the coupon below for samples of Marcelle Cleansing Cold Cream, Skin Lubricating Cream, Special Foundation Cream for Dry Skin, Face Powder, Rouge and Lipstick.

MARCELLE hypo-allergenic COSMETICS
1741 N. Western Ave., Chicago 47, Ill.
Please send me the six sample beauty aids. I enclose 10c.
Blonde..... Brunette..... Auburn.....
NAME.....H-3-44
ADDRESS.....

college. I have enjoyed the articles, which range from the entertaining to the instructive. At that time, I selected a few magazines which I thought I would like to continue reading after college—and my name has always been on HYGEIA's mailing list.

EMMA BRAMWELL
Madison, Ind.

So Many—So Little

To the Editor:

Kindly take my name off your list. I have never known a magazine to use so many words to say so little.

ROBERT J. BERENTSEN
Rochester, N. Y.

Too Plain?

To the Editor:

Sometimes I feel that I can't miss one copy of HYGEIA, but when I read some of the too plain talk on sex and what I should tell my children, I am almost ashamed to have my children pick it up. But I'll try it for one more year.

MRS. HARRY WRAY
Pratt, Kan.

Helps Teachers and Pupils

To the Editor:

If ever health was an important factor it is during this emergency. Our teachers find HYGEIA very worth while and there are many timely topics which correlate well with the work in our health classes. Thank you for making this valuable contribution to the health of teachers and pupils.

RENA C. FLANAGAN, Principal
Tilton Elementary School
Chicago, Ill.

Who's Who

(Continued from page 164)

Among the other contributors in HYGEIA this month are: William F. Braasch, M.D., of Rochester, Minn., a member of the Board of Trustees of the American Medical Association; Henry R. Viets, M.D., Boston psychiatrist; Leon Felderman, M.D., practicing physician in Philadelphia; J. Arthur Myers, M.D., of Minneapolis, past president of the National Tuberculosis Association, and Virginia L. Dustin, who has collaborated with Dr. Myers on several previous articles in HYGEIA; M. G. Westmoreland, M.D., a member of the staff of the American Medical Association's Council on Medical Education and Hospitals; and Capt. E. K. Gubin of the Army Service Forces, Washington, D. C.

She thought *Whooping Cough* was "no cause for worry!"

TOO MANY MOTHERS do not realize that whooping cough causes more deaths among babies under one year than any other contagious disease!

And very few know that *today* babies can be protected against this disease by immunization—as early as six months.

Has *your* baby been immunized against whooping cough? Do you know at what age he should *also* be protected against smallpox, diphtheria and lockjaw? Do you know how soon this protection "wears off," and at what ages re-immunizations should be given?

THESE ARE THE AGES *when your child should be protected . . .*

3 to 12 months is the right age for *smallpox* protection.

6 to 9 months is the right age for immunization against *whooping cough* and against *diphtheria*. In modern practice, *tetanus* immunization is often combined with the diphtheria inoculation.

After 18 months immunization for *scarlet fever* should always be considered if the "Dick Test" shows that your child is not naturally immune.

At 6 years or over. Immunization usually begins to wear off after about 5 years. So at 6 years consult your physician about re-immunization against *smallpox* and *diphtheria*. Ask also about protection from *scarlet fever* and *typhoid*.

At 12 years. Consult your doctor again. Keep your child's immunization up to date.

Important for all ages. If your child did not receive the protection he should have had at an earlier age, see your physician immediately and have him immunized *now*.

Almost one out of every five people dismisses whooping cough as a "simple disease and no cause for worry"—a recent national survey shows. Yet whooping cough is one of the major causes of baby deaths under one year.

This card may save your baby's life!

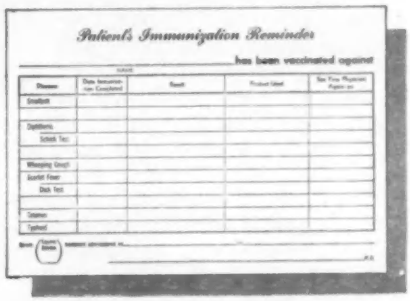
Don't trust your child's safety to your memory of the dates when he should be immunized or re-immunized.

Go to your doctor today and ask him for an Immunization Record Card. Sharp & Dohme supply these cards to physicians free upon request.

The doctor will fill out the card, so you will have a written record of *what* diseases your baby has been immunized against and *when* he was immunized. Even more important, it will remind you when to take the baby back to the doctor for additional immunizations or re-immunizations.

Don't fail to get this card—and *keep it where you will be sure to consult it at least twice a year*, so your child's protection will be kept up to date.

A folder discussing immunization is available upon request to any interested individuals or groups. Write to Sharp & Dohme, Dept. H-3, Philadelphia 1, Pa.


Patient's Immunization Reminder

has been vaccinated against

Disease	Date Immunization was Completed	Result	Product Used	Sig. Your Physician Signs on
Smallpox				
Diphtheria				
Schick Test				
Whooping Cough				
Scarlet Fever				
Dick Test				
Tetanus				
Typhoid				

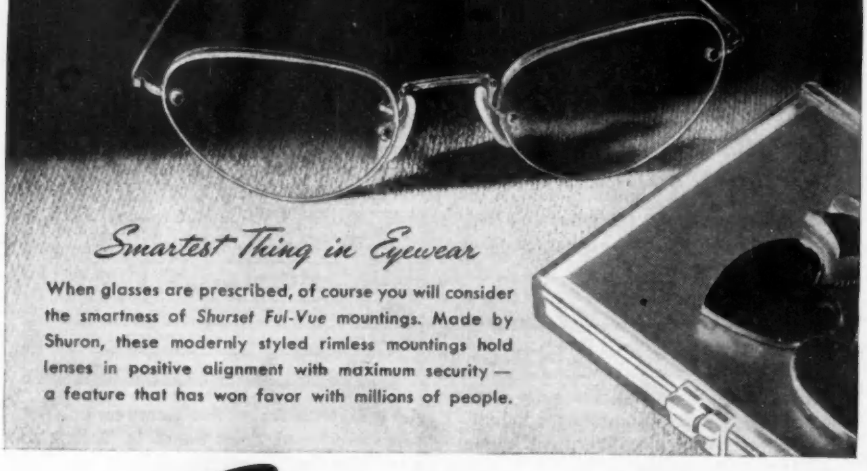
Name (Parent's Name) address or ... M.D.

Ask your doctor for this free record card. These cards are supplied by Sharp & Dohme to physicians only.

Sharp & Dohme

Makers of Dried Blood Plasma—a development of Sharp & Dohme Research—as well as Sulfa Drugs . . . Vaccines . . . Antitoxins

She is waiting and wondering. Waiting for an eye examination—perhaps her first. *Wondering* how she will look in modern glasses—if prescribed. But it is more important that she consider the relation between good vision and good health. That is why she is placing full confidence in the man she is waiting to see—the man who has spent years in the study and practice of his profession—the man who knows how to provide maximum visual comfort.



Shuron
SMART EYEWEAR

HEALTH MUSEUM

Joseph Motto, Artist, Cleveland Health Museum, touches up his model of the Elizabeth Severance Prentiss Award, which was announced by Dr. Bruno Gebhard, Director of the Museum, at the Third Anniversary Luncheon recently.

The Award will be given annually to an institution or individual chosen by the Museum's National Advisory Council for outstanding service in health education during the preceding year. First award will be given at the Health Museum's annual meeting in 1944. After the war, the model will be cast in bronze. Recipients will retain possession of small replicas, while the original, engraved with their names, remains at the Museum.

The Museum's Traveling Exhibits have taught health facts to 750,000 people in sixteen states and Canada. More than 2,700 health questions have been answered by the American Medical Association via the Museum Question Box. A Junior Health Club directs the energies and curiosity of 8 to 16 year olds in the ways of healthful living through quiz bees, treasure hunts and dramas. Thirty-two interns have received certificates indicating completion of the Museum's course in health education by visual means. The Museum's workshops have constructed exhibits for health agencies throughout the United States. Increasing requests make expansion of the workshops an immediate necessity.

What's in a Name?

—An Editorial by MORRIS FISHBEIN

THIS year more babies will be born in the United States than were born in 1943. The number of births for 1943 was far higher than for 1942. This serves to focus attention on the important problem of what to name the baby. The statisticians in health departments and hospitals know that the popular

The name that seemed so sweet for Baby—

names for children run in cycles. One year most of the boys will be named Robert, the next year Richard, and then perhaps for a while John will come into vogue. Mary seems the most common name for girls, representing one in 24 of all women. Elizabeth runs a close second with one in 27. Then come Margaret and Helen with one in 40. As proof of the fact that Mary used to be more popular than it is now, the percentage of Marys among women over 40 is much larger. Among women in college in 1927 Elizabeths were more frequent than Marys. Then came Helen, after that Dorothy and Margaret, and in sixth place Marie. Seventh was Katherine, and after that Louise and Ruth, and Eleanor ran tenth.

Parents who are considering the naming of prospective babies will do well to give thought early to the name that they wish for a boy or the one they wish for a girl, so that the proper name may be filled in promptly when the doctor writes the notification of birth for the health department. A birth certificate is one of the most important items any one can possess. It is necessary in traveling abroad, in joining the Army, in going to school, in applying for a position, or in any one of a number of important situations in ordinary life.

The statisticians who work in health departments get an interesting commentary on the public attitude in regard to naming the baby. A recent collection of birth certificates filed with the Georgia Department of Public Health revealed such tributes to mother nature as Pink Sunset and Icie Rivers; reference to cash in such names as Good Price, Honest Price and Major Sales; geographical contributions like Georgia Possum, Asia Minor, Whosa Cracker, China Rice, and some twins named Utah and Arizona Reynolds. The hope for the future was expressed in such names as Wash Saturday, Buster Good, and Be Careful McGee. Especially to be noted were Perty Smart, Love Session, Wash Fountain, Rather Bigg, Spanish Dentist, Hansome Mann, Virginia Ham and Aborn Sargent. Perhaps a romantic touch is conveyed in Late Night Mann and Pleasant Feelings.

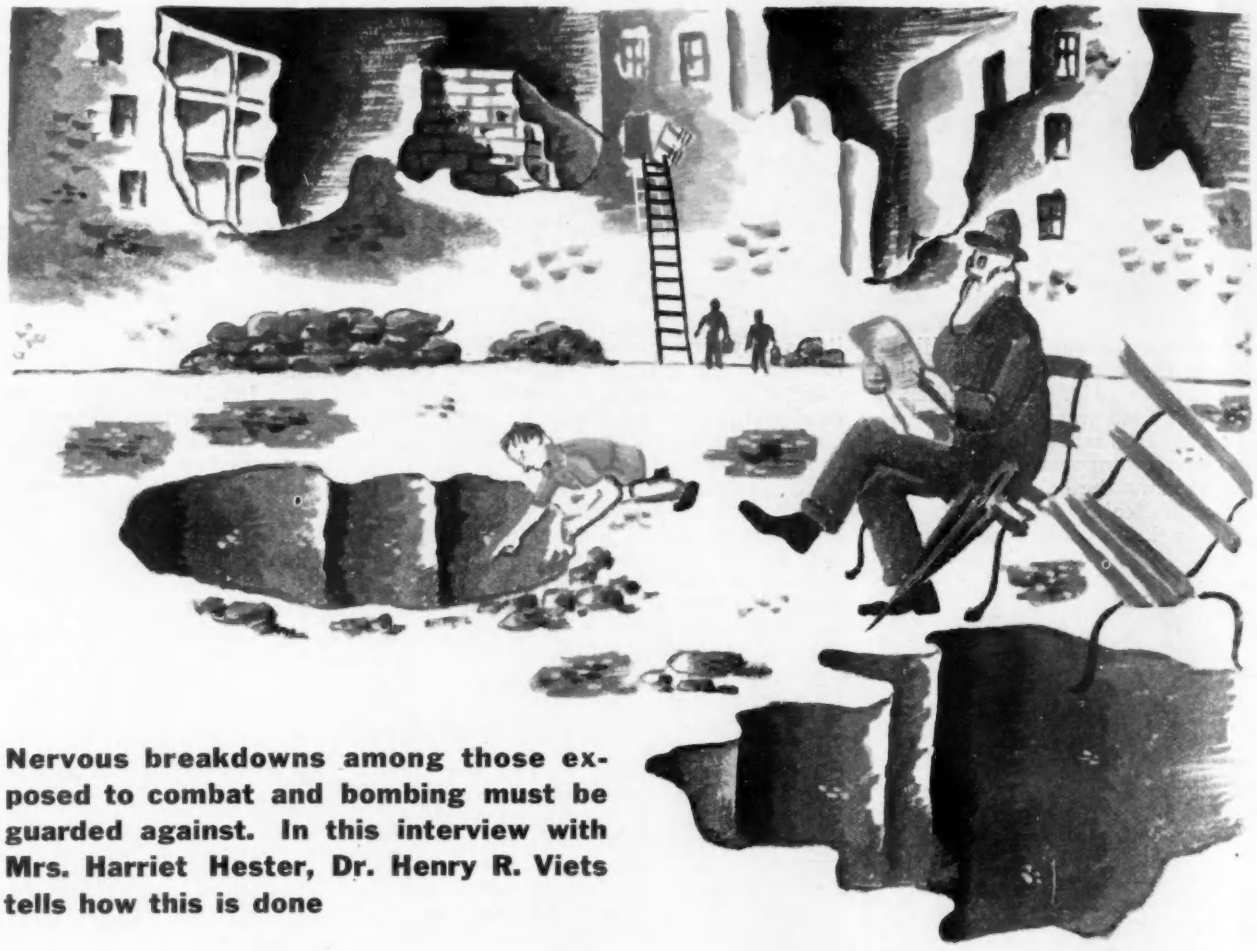
People are guided by many influences in choosing names. After World War I Jean was most popular, but she turns up now as Jeanne. When Florence Nightingale was receiving a great deal of publicity, the name Florence led almost all the rest. As an indication of the cycles, Ruth was most common in 1900, fell to ninth place in 1905, and rose to fifth place in 1910. Parents should remember that names, like clothing, go out of style. Flower names like Pansy, Lily and Violet, are rapidly passing out of style, as are also such jewels as Ruby and Opal. Furthermore, certain names come to be associated with occupations, such as Bridget for a cook and Dinah and Jemima for a colored cook. A doctor whose name was First actually named his son Safety. Parents will also do well to remember what happens to names when they are reduced to initials. The Grays should always think twice before naming their boy Henry Oliver because that comes out H.O.G. Modern slang gets a treat when the initials come out S.A.P. or L.U.G.

Among boys the names William and John are most common, representing one in 20. Then follow James, George, Charles, Harold, Robert, Edward, Joseph and Arthur. Boys names are less susceptible to changing styles than those of girls. The first five on the list have been in that position since 1885. Many a boy was named Percy, Reginald or Algernon when the British influence dominated American aspirations in the early part of the last century. Since this influence has passed, these names have begun to disappear, probably also because the gang on the corner always thought that Percy, Reginald or Algernon meant a sissy.

The suggestion is therefore emphasized that prospective parents select a suitable name for either a boy or girl as soon as possible and make certain that proper notification of birth and issuance of a birth certificate ensue immediately after the child is born. Will Rogers wrote many years ago, "I now see

—May make Junior blush with rage!

that the purpose of a birth certificate is not to prove that you have been born, as I had thought at first. The purpose is to show when you were born, where at and who to." It shows also the appellation by which you will be known in all your official relationships, to your family, to your school and to the government throughout your life.



Nervous breakdowns among those exposed to combat and bombing must be guarded against. In this interview with Mrs. Harriet Hester, Dr. Henry R. Viets tells how this is done

MRS. HESTER: Doctor Viets, we frequently hear the phrase "war nerves," and speculation as to whether or not certain military action of the enemy will break a people's morale. What is the actual effect of total war on civilians?

DR. VIETS: One of the most striking stories from bombed areas reports the relative rarity of nervous or mental disturbances in the general population—even from those cities most heavily attacked. This was true in Madrid during the Spanish Civil War, where bombing was almost incessant for months on end. It was also proved in such a locality as Southwark, a large, heavily populated area of the poorer classes in London.

HESTER: That's most surprising!

VIETS: In 1940 and 1941, when the London blitz was at its height, in spite of the terrifying experiences through which the people passed, few of the patients brought to the ancient Guy's Hospital in the heart of Southwark suffered from nervous symptoms. Devastation was everywhere, except in the minds of those who witnessed it.

HESTER: It must have been a tragic experience for many of these people.

VIETS: Whole families were wiped out. Yet there were amazingly few mental casualties. Children and adults shared alike, for practically no acute emotional symptoms have been reported in children. Cases of "bomb fright" were almost unknown. If any reaction took place in children, "siren fright" was more important than bomb fright. The same story could be told of Coventry, Bristol and the south coastal ports of Great Britain.

HESTER: It seems to me I read somewhere that children evacuated from the cities of England suffered more acute mental distress at separation from their families and friends than did the children left in cities, who had their accustomed feeling of family security, and only bombs to worry about!

VIETS: Yes, that is true. Moving out of the bombed area always meant breaking up the family. Thus the main element of a feeling of security was lost.

HESTER: How can one account for so few nervous breakdowns in the civilian population?

NERVES IN WARTIME

VIETS: Many factors enter in. First, certainly, is the spirit of an unconquerable people—a people, as Churchill put it, "with a consciousness of being associated with a cause far higher and wider than any human or personal issue." That spirit certainly prevailed in England, and we have no reason to doubt that the same spirit upheld the civilians of Malta, Sevastopol, Moscow and Madrid. It is the most powerful weapon against nervous disintegration. Behind it lies all our justifiable propaganda to build and hold up national and—in this global war—international morale.

HESTER: Of course, there's something for every one to do in wartime.

VIETS: Responsibility is a second important factor, Mrs. Hester. Proper organization based on adequate preparation for civilian defense gives each person in the bombed area a job that is both insistent and imperative. The more widely this sense of responsibility can be spread, the rarer are the cases of psychoneurotic illness on the home front due to bombing.

HESTER: All of us have admired the stamina of our beseiged allies abroad. I suppose each of us has wondered inwardly whether or not we could measure up under attack in our country.

VIETS: If we have in America, and I think we have, that strong inner discipline so characteristic of the British, we do not need to fear. Nor do we need that discipline from without so much in evidence in the life of the German people.

HESTER: Certainly our lads in uniform have given us a worthy example.

VIETS: When every man is free, he tends to work and strive in his own interest.

HESTER: Wasn't it another Britisher, Oliver Cromwell, who said, "The citizen soldier knows what he is fighting for, and loves what he knows"?

VIETS: The inner discipline becomes of greater use to a person when he is left to his own devices and takes his own responsibility, not only for himself but for his dependents. This is what supports man at his highest level when his home is destroyed in total war.

HESTER: Does a feeling of social responsibility have any bearing on this rising to tragic emergency?

VIETS: The individual's responsibility is greatly increased by his desire to make good among his own people. Their respect is important to him. To earn it he must not fail. This is well illustrated in reports of bravery among all classes of people. No one in a city blitz has any more security than his neighbor. The necessity to share and share alike, with equal responsibility, does more to uphold civilian morale than any other factor.

HESTER: We could learn some wonderful social lessons from these tragic experiences—lessons for permanent reference in the peacetime world ahead!

VIETS: I agree. A third factor must be considered; that is the prevention of the apathy, the lack of initiative that comes with disorganization.

HESTER: You mean that when everything is wiped out—home, family, fortune, friends—it takes a stern heart to face life again?

VIETS: It does in- *(Continued on page 204)*

THE ANCIENT ENEMY OF MAN

Lice

By GLADYS PATRIC SHAHOVITCH

THE PRIMITIVE SAVAGE first rubbed himself with leaves or sand to clean his body. Later, he scraped himself with dull instruments; then he learned that certain leaves or roots made a lather and cleaned him more thoroughly. He learned that oil rubbed on the body softened and removed encrusted dirt. Much later, men learned how to make and use soap. They also learned that certain

In spite of his efforts at cleanliness, primitive man was infested with insects

insects which attached themselves to the body were killed and removed during cleansing.

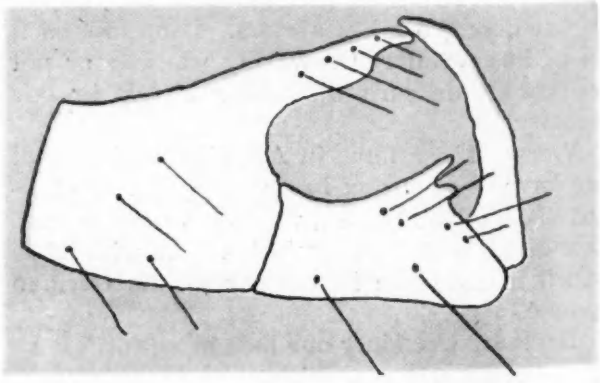
One of the commonest insects found on the human body is the louse. It is found on all races of man, in all parts of the world. Especially, it is found on the poor and unfortunate who do not have the necessary means for cleanliness. In times of war, when cleanliness becomes more difficult, lice are found in abundance among soldiers, refugees and prisoners. In beseiged cities the water supply is frequently disrupted, and lice appear. In wartime, too, workers throng to industrial centers, where they may be crowded into inadequate quarters; under such conditions, lice often appear. Even in time of peace, earthquakes, fires or floods may bring disaster and cause people to live huddled together in temporary, unsanitary dwellings where lice may abound, adding to discomfort and danger.

Scientifically, lice are designated by the name Pediculidae. The Pediculidae found on the human body are generally classified into two groups: Pediculus humanus, which is divided into (1) Pediculus corporis, or body lice, and (2) Pediculus capitis, or head lice; and Phthirius pubis, or "crab lice."

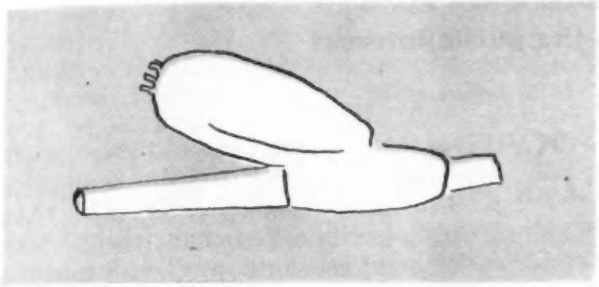
The louse is a small, light colored, six-legged insect whose body is divided into a head, thorax and abdomen. Since its main object in life is eating, the abdomen is the largest part of the body. The leg of a louse is short and has a blunt "thumb" on its inner side which, with its clawlike toe, enables the louse to grasp and cling to a human hair. The legs of the Phthirius pubis are especially short, giving it a crablike appearance which is responsible for the fact that it is often called the "crab louse."

The mouth of a louse is a tube which at feeding time turns inside out, exposing teeth which are hooked into the skin of the victim, anchoring the insect fast. Within the tube are two sharp points, or stylets; as soon as the louse has anchored itself to the skin, these stylets are brought forward to cut and tear at the flesh until blood comes. Then the louse extends its tube into the wound and sucks the blood into its body. The itching which occurs and annoys the victim is caused by saliva which is deposited in the open wound. Frequently the victim scratches the wound to relieve this irritation, breaking the skin over a wider area and often producing infection. Impetigo, boils or eczema may follow, and underneath the crusts of such infected areas the lice live in what are, to them, ideal surroundings.

Leg of a louse. Note the long, vise-like claw and the opposing thumb



The female louse lays its eggs on a hair or a coarse fiber of cloth. The body louse may use rough cloth with a coarse fiber such as may be found, for example, in a woolen garment, but it will also use silk or linen if no more favorable location is offered. The head louse and pubic louse rarely deposit eggs on anything except human hair. Usually, the body louse selects a warm part of the body—under the arms or about the waist—for laying its eggs. The head louse gets near the scalp or under thick hair dressing. When the female louse lays its eggs, it grasps the hair, and as the eggs come forth from its body they are accompanied by the flow of a cement-like substance which attaches the eggs firmly to the hair. This substance adheres so strongly that it cannot be destroyed by any process which does not also destroy or remove the hair itself. Empty egg shells, too, remain attached to the hair by the "cement" for a long time; as the hair grows, the particles of shell are farther and farther removed from the scalp. Eggs are deposited and hatched and the new family of lice grows to a state of activity in about thirty-five days.

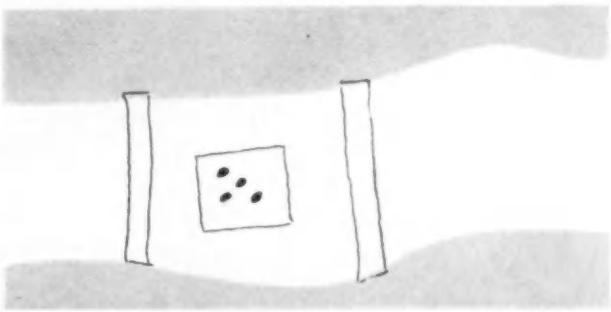


The louse egg is fastened to a hair with a deposit of "cement" which holds it fast

A newly hatched louse is the size of a pinhead, while the fullgrown louse may reach a sixth of an inch in length. During the Civil War, recruits are reported to have observed that "the louse was as big as a blouse and spelled almost the same way." The doughboy of World War I said that lice were as big as limousines; he called them "cooties." The soldier of World War II, using the language of his time, says that lice are the size of Flying Fortresses, though his particular name for them is not yet on the record.

The newly hatched louse begins to feed almost at once. The head louse and body louse can go without food for hours, but the crab louse is almost a continuous feeder. For this reason, the head louse and body louse can survive for some time away from the host, but the crab louse dies quickly on removal. Head and body lice crawl rapidly on their long legs, but crab lice, which have short, stubby legs, move slowly. Either kind, however, may be brushed off or blown from one person to another; hence they travel rapidly from one person to another in groups living closely together—particularly when people must share sleeping quarters. Body lice travel rapidly from clothing recently removed to other clothing placed nearby. Head lice cling to the hair but may be removed and transferred by combs, in hair ornaments and head-dress. Occasionally, they drop on the backs of chairs and are picked up by the next occupants. Crab lice cling to the hair of the pubic area and are difficult to remove. They travel mainly by bodily contact, from hair left in beds, and occasionally from hair dropped on furniture and in toilets. While the louse is not an adventurer and does not travel far of his own volition, his ability to move quickly from one person to another makes the range of his journeys as wide as man's. An old superstition says that lice are found only on healthy persons and therefore should not be destroyed. It is true that the louse prefers a healthy victim, but certainly no one could wish to prove his health by being a mess hall for lice!

Sucking away the blood of its victim, the louse lowers the sufferer's resistance to disease; in extreme cases, a condition resembling malnutrition may result. When a healthy person is attacked by a large number of lice at the same time he may suffer from headache, drowsiness, pain in muscles and joints, and fever. The badly infected soldier thus becomes a military problem, for he is too sick for active duty. Even the mildly infected soldier is partially disabled; he scratches himself continually, sleeps poorly and ultimately loses vigor and strength. Worse yet, the louse may carry an infection which is dangerous to man. After feeding on the body of a man infected with typhus or relapsing fever, the louse may carry the bacteria of these diseases to a healthy person, depositing them *(Continued on page 214)*



Scientists have observed lice by binding a cage to the calf of the leg—like this

The Council on Pharmacy and Chemistry

of the American Medical Association

By WILLIAM F. BRAASCH

Year after year, this unheralded group of scientists works on in the public interest

AMONG the many activities of the American Medical Association for the health and well-being of the public, the work being done by the Council on Pharmacy and Chemistry deserves great recognition. Too few people have heard of this council or have any conception of the extent to which it protects the public health.

Today several agencies shield the public so well from fraudulent medications that many take for granted the protection they enjoy. A generation ago, however, nothing inhibited the making of exaggerated and false claims for drugs, or widespread exploitation of the public on the basis of these claims. Newspapers and magazines published any wild statement without question. Even if some publishers had scruples as to the integrity of their advertisers, they had no way to determine the true value of pharmaceutical wares. The public had no way to get at the truth of the advertising claims. The physician himself was often misled by therapeutic claims. About the only way that he could find out the value of products was by trying them on his patients. This method, unless the drugs were tried on many patients, and under carefully controlled conditions, could easily lead to erroneous deductions and disastrous results. There was urgent need for establishment of some agency which would protect the public as well as the medical profession from exploitation by manufacturers who made false claims for pharmaceutical products.

In response to this urgent need, in 1905 the American Medical Association formed the Council on Pharmacy and Chemistry. This agency has proved to be a powerful factor in controlling the situation that has been described. The methods adopted were simple enough. The council has no legal or governmental backing. It merely refused recognition by the American Medical Association of any pharmaceutical product which does not abide by the rules laid down for approval of such

products. Briefly, these rules may be stated as follows:

1. No article will be accepted for inclusion in the published list of accepted drugs unless its composition is published and the amount of each active medicinal ingredient is stated.

2. No article will be accepted unless suitable tests for determining its composition are furnished to the council.

3. No article that is advertised directly to the public will be accepted. This rule shall not apply to certain agents about which the public should be informed, such as vitamins, disinfectants, germicides and antiseptics limited to superficial surfaces, nor to preparations of liquid petrolatum.

4. No article will be accepted if the label accompanying the package contains names of diseases for the treatment of which the article is said to be indicated, if that article may be used for dangerous self medication. The therapeutic indications may be stated provided such statements do not suggest self medication.

5. No article will be accepted concerning which the manufacturer makes false or misleading statements.

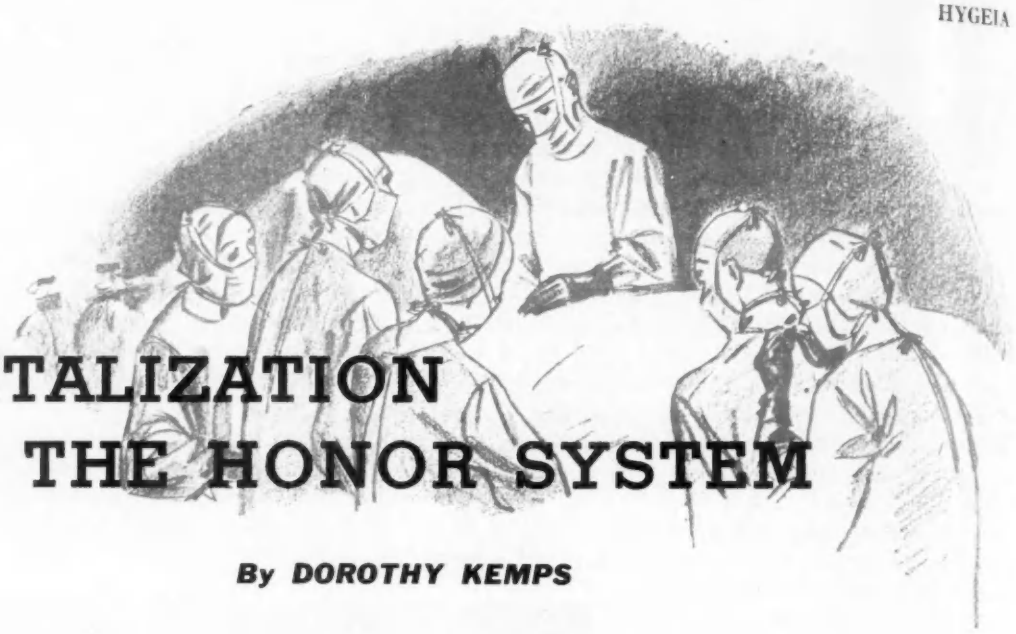
6. Proprietary names for medicinal articles shall be recognized only when the council shall deem the use of such names to be in the interest of the public welfare.

These rules are established solely in the interest of public safety. Rules 3 and 4, for instance, are not followed because the doctors want to keep people in ignorance about medicines but because of the lamentable fact that an untold host of people who have been partially informed about medicines have injured and occasionally killed themselves in attempts at self treatment. It may be trite by now, but it is no less true to say that a little knowledge is a dangerous thing.

Few people realize how many pharmaceutical products are manufactured today. The growth of American pharmaceutical institutions in recent years is one of the interesting developments of American industry. Spurred by therapeutic research, huge institutions have been erected in recent years for the production of a vast variety of pharmaceutical articles. Extensive research laboratories have been developed which are manned by topnotch chemists, physicians, bacteriologists and other types of investigators who carry on scientific investigation of the highest standard. As a result of competitive efforts to develop new preparations, improve old ones and make synthetic preparations, many important additions have been made to pharmacology and have proved to be of great therapeutic value. Most pharmaceutical institutions are ethical and conform to the standards and regulations established by the Council on Pharmacy and Chemistry.

Below: Chemists in the Council laboratories test hundreds of products annually to guard consumers from dangers of misleading claims

Unfortunately, however, some manufacturers of drugs and therapeutic products do not maintain the high ethical standards of the leading pharmaceutical firms. They advertise products which are of doubtful therapeutic value, some almost on a level with quack medicines. Other con- *(Continued on page 212)*



HOSPITALIZATION ON THE HONOR SYSTEM

By DOROTHY KEMPS

IT WAS a rainy, winter night in Glendale, Calif. Mary Lou Brown, 15 years old, lay in her bed with an attack of acute appendicitis. She had heard her doctor and the consulting physician tell her parents, "She must be operated on immediately. By morning the appendix may be ruptured."

Out in the living room of their modest home, the parents and the two doctors were discussing the situation. Mr. Brown looked at his wife. "We have no money for the hospital, Doctor. I can get a loan on our car in the morning if the hospital will let her enter tonight." The doctor stepped to the telephone, called the hospital, and made arrangements for Mary Lou to enter immediately. At 10:30, Mary Lou was wheeled from Surgery to her room, her life spared.

It was just one month later that the doctor received another telephone call from Mr. Brown. "Doctor, my wife is complaining of severe abdominal pains." On examination, the doctor found that Mrs. Brown had an acute inflammation of the gallbladder which required immediate surgery. Again the Brown family was confronted with the problem of immediately paying hospitalization expenses. Fortunately, they owned their own furniture and were able to mortgage it for enough to pay the hospital bill.

This is a condition which exists in nearly every community in the United States. The wealthy are able to take care of themselves; the poor can receive excellent care at a clinic or county hospital. But the in-betweens, the self-supporting, low income group, are usually desperate when unexpectedly faced with the need for hospitalization. Hospitalization insurance is available in many communities now, but there are many communities which do not have an insurance plan, and even in those which do, many citizens are not eligible for insurance.

Dr. Sverre Oftedal, the Browns' physician, pondered this problem until he conceived a plan to help Glendale citizens requiring emergency treatment and unwilling to accept charity. The plan in brief is this: A revolving loan fund is supported by annual donations. From this fund, money can be borrowed by needy Glendale citizens for hospitalization only. Funds are available instantly, no interest is charged. The money loaned is payable back to the fund in regular installments to suit the convenience of the borrower. This plan solved the two greatest worries of needy citizens requiring hospitalization—lack of readily available money and lack of time, a vital element when emergency care is required.

The doctor interested some of his fellow church members in the basic plan. An executive board was formed; soon thereafter the Glendale Hospital Auxiliary was introduced to Glendale at a membership tea. One hundred and twenty-five prominent citizens attended and were so enthused with the plan as presented that every one became a member, and the loan fund was started on the spot.

The memberships are in reality donations, and there are four annual types in the Glendale Hospital Auxiliary: active, $1; associate, $5; honorary, $25; and life, $100. As might be expected, the majority are active members, paying only one dollar annually. The Rotary Club, Kiwanis, Business and Professional Women, Tuesday Afternoon Club and many other organizations are either associate or honorary members. Many Glendale physicians supported the movement by individual memberships. There are several life members,

and the Glendale Medical Society has been contributing $100 annually.

All monies received from memberships become a part of the loan fund. Cases may be referred for loans by individuals or by any doctor who is a member in good standing of the medical association. For instance, John S. had obtained a job at Lockheed Aircraft, but in his physical examination it was discovered that he had a hernia. Lockheed promised to hold the job for him for six weeks, during which time he was to have the hernia corrected. The family consisted of a mother and younger brother whose income was limited to rent from boarders. They had no security whatsoever, and for that reason several loan companies refused the loan. Because an emergency operation was not involved, the county hospital could not consider the case for six months. He sought the advice of his physician, who immediately contacted the Auxiliary. That same day the boy entered the hospital, and on recovery he went to work. He repaid the loan at the rate of $20 a month, and those repayments immediately were loaned out to help another citizen.

Three weeks before Christmas, Mary J., the mother of three small children, developed serious hemorrhages necessitating immediate hospitalization and treatment. The father worked in a grocery store for a salary of $105 a month, which was not adequate to provide for emergency hospitalization. The Auxiliary made the loan, and the mother recovered. Mr. J. was so grateful for the help given that he wanted to begin repaying the loan immediately. He was told by the Auxiliary, however, to use that money to give his three babies a Christmas, and to begin payments on his loan the first of January. It has now been repaid in full—and that money promptly went to work again.

Vivien L., the mother of two children, needed surgery for fibroid tumors. Mr. L. made $140 monthly and had small debts totaling $200. They were referred to the Auxiliary by the adjutant of the Salvation Army. The day after the request for help was received, the woman entered the hospital. While she was confined there, Mr. L. rearranged his obligations, repaying part of the loan even before the Auxiliary received the hospital bill. The balance has been nearly liquidated at $5 a month. Mr. L. wanted to take part in this movement and took out a membership in the Auxiliary.

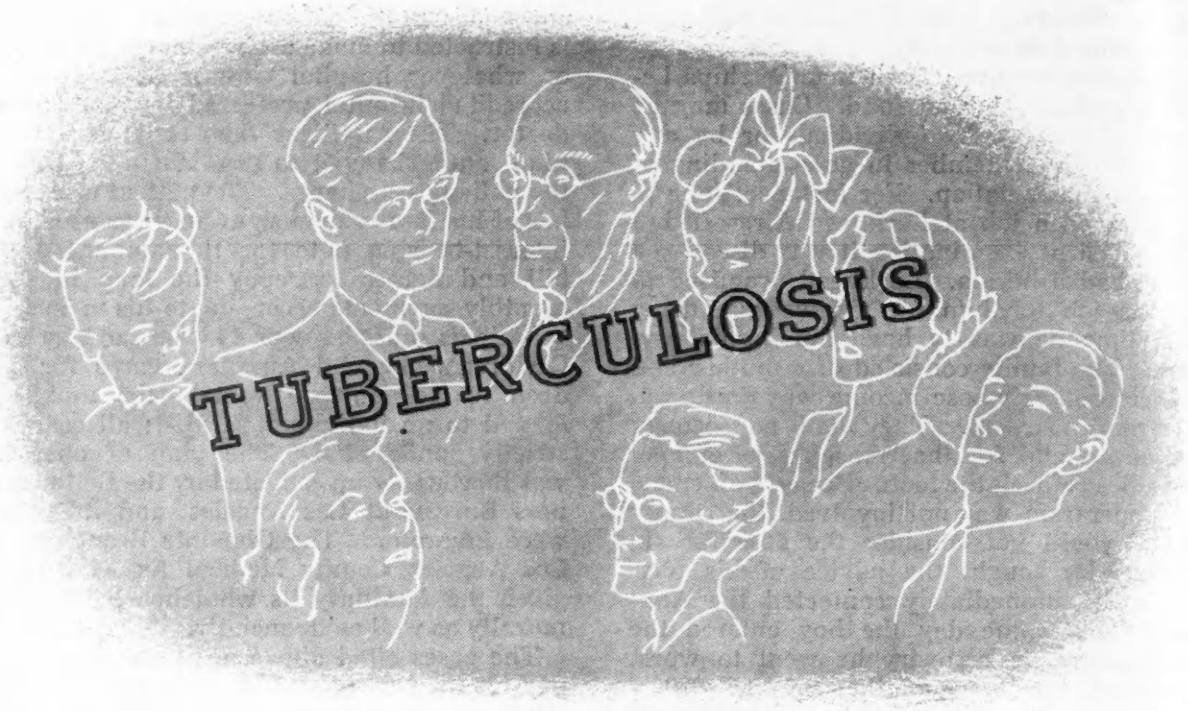
Time after time, illness strikes suddenly—often at night. An acute appendix, premature confinement or some other crisis arises, and the Auxiliary steps in to lend a helping hand. If the case appears worthy, the facts are checked with the patient's doctor. The patient is instructed to make arrangements for surgery or whatever hospital care is needed at any accredited hospital preferred by him and his doctor. The Auxiliary then contacts the hospital, authorizing it to send them the bill on the patient's discharge. The patient or a member of his family then signs an unsecured, non-interest-bearing note for the amount of the bill and agrees to repay the loan in small monthly payments according to his means.

Patients must be over 14 years of age (The Children's Hospital Auxiliary cares for children up to fourteen years); the maximum loaned to an individual is $100; all cases are strictly confidential. The plan of operation was thoroughly investigated by the Better Business Bureau of Los Angeles, and its reports were favorable. The Glendale Branch of the Los Angeles County Medical Association has given the Auxiliary its wholehearted backing, morally as well as financially.

The cases cited above are sufficient to convey an idea of the practicability of the plan, which has now been in operation for a year and a half. Its experimental days are past. There is no loss of time in the extension of friendly, helpful assistance, and further, although people may not value charity, they certainly do prize highly the chance the Auxiliary gives them to help themselves. Not one single letter has been written requesting payment on a loan; every loan has either been paid in full or is being repaid in regular monthly installments. It has been proved that people who receive help from the Auxiliary are appreciative enough to return the money advanced for hospitalization, thereby making it a fund from which money is not only being loaned out, but to which payments are being returned each month on loans already made.

Glendale is a city of more than 90,000 people, and in wartime sons, husbands and fathers who have been contributing to their homes are taken away for service. This means that families which could otherwise stand on their own feet may be forced into a position in which, if the Auxiliary could not help them, they wouldn't receive help. The Auxiliary's revolving loan fund idea makes the same dollars work over and over and over again—rebuilding our citizens physically. That knowledge brings satisfaction to all those who have a part in this program.

The executive board consists of twelve typical American women; a buyer, a doctor's wife, a secretary, the wives of the city clerk and the chief of police, a florist, the wife of a dentist and several others. Because the board feels that people who donate *(Continued on page 205)*



By J. ARTHUR MYERS and VIRGINIA L. DUSTIN

THERE is no satisfactory evidence that tuberculosis is inherited in any sense of the word—either in man or the various animal species. It is only rarely that congenital tuberculosis occurs—that is, when the child is infected before birth. When this does occur, tuberculosis attacks the placenta and breaks down its protective effect so that the tubercle bacilli of the mother actually enter the blood stream of the offspring before birth. This happens in a small fraction of 1 per cent of all births, both in animals and man—such a small number that it is without significance from the standpoint of tuberculosis control measures.

Thus tuberculosis is practically always contracted after birth by an uninfected person who comes in contact directly or indirectly with a person or an animal who has the disease in the contagious stage. Such contact may occur on the first day of the infant's life or at any subsequent time. Unfortunately, we have allowed human beings in large numbers to become infected with tubercle bacilli; we have then allowed the disease in these bodies to develop to such proportions that it became contagious before we paid any attention to it. In this manner tuberculosis has been able to perpetuate itself in human and animal bodies.

The human body has at all ages of life an extremely effective defense mechanism against the first attack of tuberculosis. Certain of its white blood cells act as scavengers, or "phagocytes"; they are present wherever the germs enter. They immediately absorb the tubercle bacilli and deposit them at various points in the body; other white blood cells then enter the defense, and in due time a wall of scar or fibrous tissue is built up around the germs. Later, a limestone wall is constructed, and sometimes an encasement of pure bone is laid down. In these encasements of scar tissue, lime or bone, the tubercle bacilli may remain alive over long periods of time. There is always the possibility that nature will dissolve these prison walls and thus set free the living germs. Therefore, an infection with tubercle bacilli at any age of life constitutes a serious health hazard.

Although the defense mechanism is extremely effective, it may be overwhelmed by huge numbers of tubercle bacilli. There is no way of determining how many tubercle bacilli gain entrance to a given body through exposure to contagious tuberculosis. However, we do use the term "massive infection"; it means simply that we believe large numbers of germs have entered the body over a comparatively short period of time.

Another fact must always be taken into consideration—namely, that even though only a few tubercle bacilli enter the body, they are capable of multiplying into large numbers in a relatively short time. It has been shown

AT VARIOUS AGES OF LIFE

that one to ten tubercle bacilli will multiply into a billion in three or four weeks under ideal conditions. Thus there are several possibilities when tubercle bacilli are taken into the human body at any age of life: First, they may be effectively walled off, the prison walls may stand throughout life and perhaps no illness will occur. Second, the prison walls may break down and liberate the organisms they have kept under control so effectively, or additional germs may be taken into the body from outside sources, in either event producing the type of tuberculosis which through all the centuries of man's existence has caused so much illness and death. Third, the number of tubercle bacilli taken into the body on first exposure may be so great that they are no longer manageable. Fourth, a small number of tubercle bacilli is capable of multiplying into large numbers in a short time and may thus seriously handicap or completely overcome the body's defense mechanism.

CHILDHOOD

Tuberculous infection is extremely serious at any age. During the first two years of life, the dosage which the infant receives is likely to be large. An adult in the immediate family or in close association with the infant may have contagious tuberculosis without knowing it; such a person may fondle and kiss the helpless infant, prepare its food, cough directly into the food as well as into the infant's face, cough into the hand and then hold the hand of the infant or dry tears from the infant's eyes with a handkerchief soiled by sputum. The infant's body is small; it contains much less blood than that of an older child or an adult and consequently has fewer white blood cells to defend it. Therefore the immediate mortality—that is, death within a few weeks or a few months after infection occurs—may be rather high, though rarely more than 5 to 8 per cent of those infected.

There is no age period in the entire span of life when so little effort is required to protect the human body against tuberculosis as during infancy. The number of contacts with adults is limited, the food may easily be prepared in a safe manner, and with little effort the environment into which the infant is to be born can be rendered free from tubercle bacilli.

After the age of 2, and particularly between 5 and 14 years, children tolerate infection with tubercle bacilli well. This was observed by one investigator, who said: "Under the age of 12 years tuberculosis is very rare." Of course, those who were infected as infants and did not withstand the disease have been removed from the group by death, but for some reason which is not fully understood, new infections which occur between the ages of 5 and 15 years are usually well tolerated. For example, in 1936 there were 24,403,489 children from 5 to 15 years of age in the United States, but that year there were only 1,807 deaths from tuberculosis of all forms among the children in this age group. Despite the fact that children infected during or prior to this age period tolerate their tubercle bacilli well, one must not become overoptimistic, because it is these children who contribute heavily to the toll of tuberculosis in adult life. Therefore, we should prevent them from becoming infected by creating an environment in their homes, schools, churches and other places which they frequent that is free from contagious cases of tuberculosis. It is also true that the young of various species of domestic animals, such as cattle and fowls, rarely suffer ill effects from tuberculosis, although they may become infected with tubercle bacilli.

Beginning at about the age of 14 or 15 years, there is a tendency among girls and boys who have previously been infected with tubercle bacilli to develop the chronic form of tuberculosis in the lungs. Just why there should be a postponement of this event until this particular age period is not clearly understood. The number falling ill from tuberculosis in this age period is not large. For example, among tuberculin reactors of high school age, on a single examination, there is rarely found more than 1 in 800 with this type of disease, whereas in the college age period 1 in 500 reactors may be found on first examination. However, on reexamining the remaining reactors a year later, another case in the 800 high school students or another in the 500 college students may be found to be developing chronic pulmonary tuberculosis, and the number may actually increase with each succeeding year.

ADULT LIFE

Hippocrates stated that the age most liable to consumption is from 18 to 35 years. In the nineteenth century, Young found that the disease is more frequently seen above the age of 35 than below it. In 1810, Bayle stated that consumption occurs at *(Continued on page 233)*

REHABILITATION OF CONVALESCENT PATIENTS

By E. K. GUBIN

Recreation and educational programs designed for patients in Army Air Forces hospitals may bring a new era in convalescent care in civilian hospitals

A COMBINATION of university campus, gymnasium and old fashioned town meeting—that will be the convalescent hospital of the future, according to hospital authorities who have examined the new methods used by the Army Air Forces in getting sick soldiers well.

Patients will no longer lie in bed idly staring at the ceiling or reading old magazines while they try to recover. Instead, they will lead an active existence, physically and mentally. They will leave the hospital not only in a shorter time than before, but also refreshed in mind and body. They will be able to plunge immediately into active life directly from the hospital doors instead of staying at home for a while to recover their physical strength and mental well-being.

What will they do while recovering in the hospital of the future? Let's take a typical day in the life of several average, convalescing patients.

Mary Jones, housewife, hospitalized because of a kidney operation, might find herself in one of the new wards, where at the touch of a switch, movable partitions will give her any privacy she needs. After breakfast all partitions will roll back into the walls, leaving a large room. On the platform at one end will be the daily lecturer on current affairs—an authority on the subject under discussion, possibly a teacher from the local schools, or even a patient. After the lecture, Mrs. Jones will ask questions or join in the discussion with other patients.

Later in the morning, an expert on interior decorating from the local college or high school, or again even a patient, will explain some of the new ideas on how to make a home more cheerful. In the past Mrs. Jones has had little time to think of this. Now she will be able to pick up some suggestions on how to make a better home for Mr. Jones.

After luncheon the hospital dietitian may give an illustrated talk on how the luncheon food was prepared, or perhaps Mrs. Jones, herself an excellent cook, may talk to other women patients on her own favorite recipes.

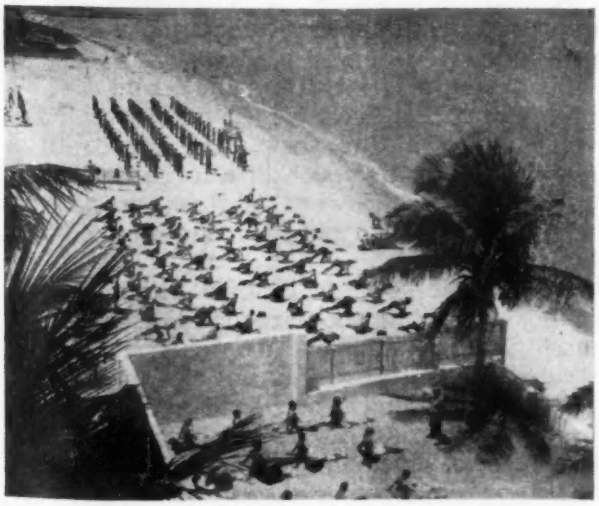
During the afternoon Mrs. Jones may adjourn to the sun room for cards or other games. A mechanized wheel chair will provide transportation if she is unable to walk. After an hour or so of this relaxation she may then listen to a short talk and a practical demonstration by the hospital beautician. She will be shown how to bring out the best points in her features by better arrangement of her hair or different type of face make-up. Mrs. Jones had always wanted to learn this, but a busy housewife has little time for this sort of thing. In the evening a feature motion picture or possibly an educational picture will be shown, and then relaxing sleep. When Mrs. Jones reluctantly leaves the hospital after several weeks of this program she will be a new woman in more ways than mere health alone.

Sam Brown, electrician, is hospitalized because of a broken leg. He is normally a vigorous person, accustomed to lots of physical activity, and when brought to the hospital he views with gloom the prospect of several weeks of inactivity. But the hospital staff speedily shows him that convalescent conditions are different now!

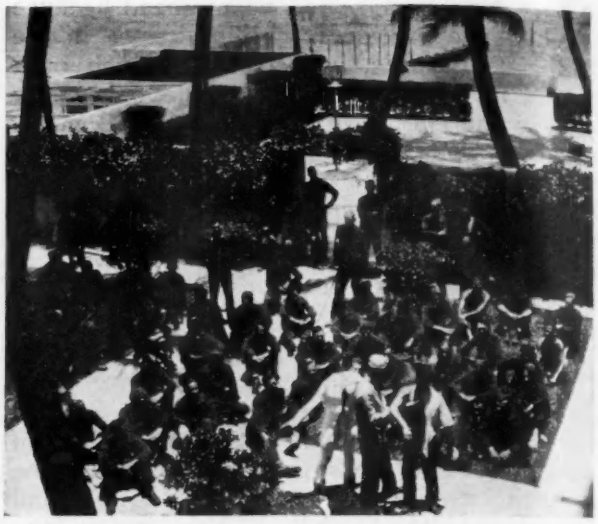
The morning after he arrives he listens to the daily current events program and even takes part in the discussion that follows. Though his leg is in a plaster cast, he commences a series of physical exercises under the supervision of an expert in this field. The exercises are progressive, some of them even taking place while he is in bed. He exercises his arms, his abdomen, his neck, and in fact all parts of his body with the exception of his broken leg. Other patients join in some of the exercises.

He learns that daily classes in a number of languages are held at 11 o'clock each morning. This awakens his desire to study Spanish —he has always wanted to take a trip to Latin America. He joins the class taught by a patient who is convalescing from a broken shoulder. After luncheon he is approached by hospital authorities who ask him to give several talks on practical electrical repair, especially on care and maintenance of radio sets. Later, he finds that a music class is being held in the sun room with instruments furnished by the hospi-

Convalescent officers and men of the Air Forces take part in regular, open air calisthenics. All men whose physical condition permits take part



Special exercise classes are arranged for men whose condition prohibits participation with large groups. This is a class of "leg cases"



Convalescent airmen are shown learning first aid in these pictures. The success of this program may mean that similar activities will become routine hospital practice after the war

tal. Having played the saxophone in his youth, he is quick to join the group and spends a pleasant hour relearning his forgotten ability. Then the weekly fisherman's group meets, under the guidance of a deep sea fisherman, now a patient, and Brown spends another interesting hour discussing the merits of various kinds of tackle and how best to handle different types of fish.

After dinner there is a feature length picture in the auditorium, or various educational pictures in the wards. Brown scans the daily hospital newspaper and finds a picture on Latin America being shown in ward C. So he views the scenic splendors of Rio de Janeiro that he hopes some day to see in person. When bedtime comes, Brown finds himself forgetting about his enforced stay in the hospital, completely relaxed and ready for a good night's rest. When his hospitalization is over, Brown leaves the hospital a different man. Current events discussions have broadened his vision; classes in language and music have enlarged his abilities; his community will receive a better citizen back into its fold.

Billy Smith is in his second year of high school. He has just had his appendix out and is worrying about keeping up with his schooling as well as keeping in shape physically. The second morning after his operation is not one of quiet worrying. Instead he listens to a fascinating lecture on current events and even adds a few points he learned in his history class. Then he starts with general physical exercises, omitting all thigh and abdominal exercises, of course. After the first week, however, he will join in all exercises.

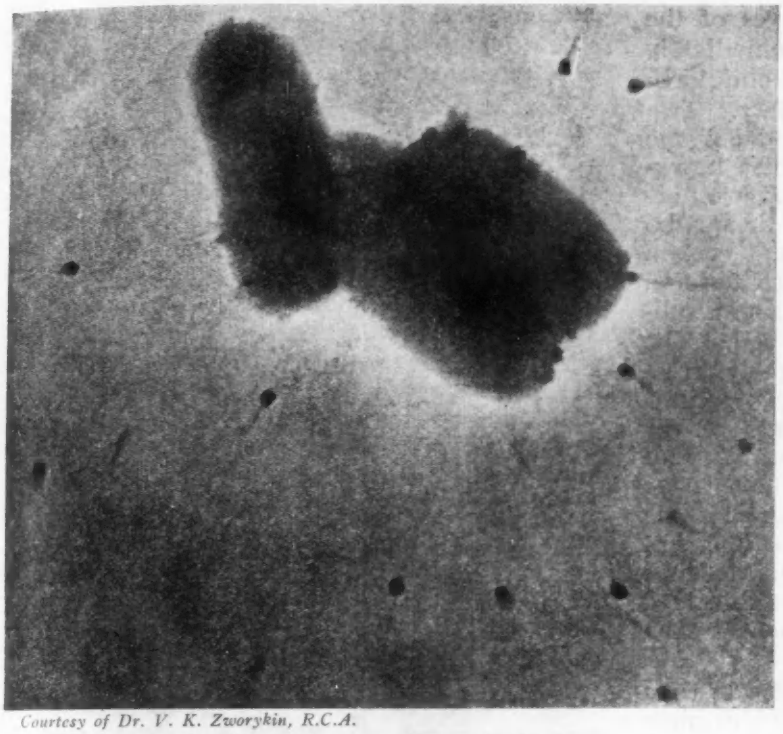
The French instructor arranges for Billy to join the class in French each morning, and Billy gets the practical experience of talking with other patients, some of whom have learned the language in France itself. He will easily be able to keep up with his high school French class.

His history class is now studying China. He finds that an airline pilot who flew in China is in the next ward. His ward nurse arranges for them to meet each afternoon, and Billy gets a large part of his Chinese history lessons first hand. The editor of the daily hospital newspaper comes around and finds that Billy is studying journalism at school. Billy is made an associate editor of the paper and has the opportunity of working with other patients who have had actual newspaper experience.

As his time to leave the hospital approaches, Billy finds that his days have been crammed full of some of the most interesting experiences in his life. The hospital is no longer an institution of pain and suffering for him, but a place where his thirst for knowledge can be quenched and his interest in people and things satisfied.

This is all a far cry from the hospital of the present, but there is a definite possibility that it will happen in the very near future. It is mainly due to the vision of a former St. Louis doctor, Lt. Col. Howard A. Rusk, now in the Army Air Forces, that this new method was first tried out.

Some months ago, Colonel Rusk decided to do something about reconditioning convalescing AAF soldiers and occupying their wasted time. He worked out a plan of physical reconditioning based on a systematic and graduated series of physical exercises and calisthenics, given in their mildest form even to bed patients. Super- *(Continued on page 235)*



Courtesy of Dr. V. K. Zworykin, R.C.A.

The black dots in the picture are bacteriophages. Scientists believe the "wakes" behind some of the dots indicate that they are lashing their tails

gained from the fact that this "electron micrograph" magnifies the objects shown 20,000 times. In the lower microphotograph, taken thirty minutes later, the destruction wrought by the bacteriophages is clearly visible. It is brought about by the explosive rapidity of their reproduction: The bacteriophage can multiply itself one hundred times in half an hour.

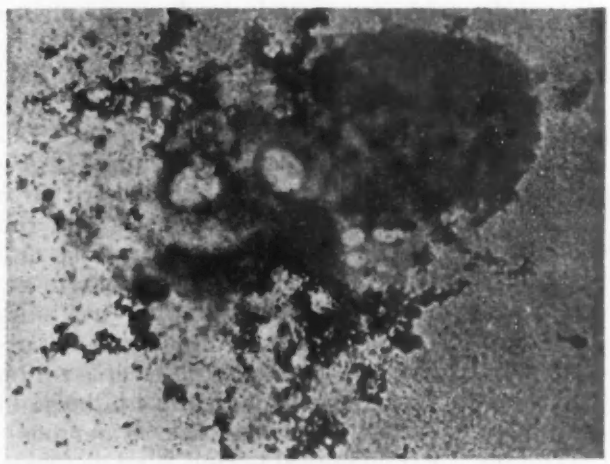
This phenomenon of lysis was first suspected in 1918 by Felix d'Herelle of the Pasteur Institute in Paris, who prophesied that the ability of the bacteriophage to destroy living bacteria would one day become a potent remedy against infectious disease. But d'Herelle's work remained simply a brilliant deduction until the electron microscope was perfected recently. Today, scientists believe that his prophecy may yet become fact. Furthermore, many investigators think the implications of the new observations are even more far-reaching: The bacteriophage is one of the smallest units known to encompass life, and its identification is considered by some research workers to be a major step in the age-old struggle toward solution of the ultimate mystery.

Science Photographs

The Borderline of Life

WHAT some investigators describe as "the most thrilling biologic discovery of modern times" is shown in the two microphotographs reproduced on this page. Made with the aid of the new electron microscope, which enables scientists to view objects never before seen by man, these pictures clearly show the activity of the bacteriophage, an ultramicroscopic living organism so infinitesimally small that hundreds of them may feed on a single bacterium. The bacteriophage is believed to belong to the borderline of life, revealing lifelike qualities only in the presence of living matter.

Characteristic of the bacteriophage is the explosive dissolution which it produces in the organism in which it dwells. This destructive process, called lysis, is caused by the reproductive activity of the bacteriophage. For the first time, the electron microscope has now made it possible actually to photograph this process. The picture at the top of the page shows bacteriophages moving vigorously toward the bacteria in the center of the picture. Some idea of the size of these organisms may be



Destructive results of an orgy of procreation. A whole generation of bacteriophages covers a span of approximately four minutes

And the First

FOR PARENTS and near relatives of the first born child, the few hours immediately before, during and after actual childbirth are fraught with the keenest anxiety. Two lives are in the balance of fate, and a home may be continued or destroyed. Even knowing that 90 per cent of human births are normal processes does not put at ease those who are closely concerned. They are not certain that they do not belong to the 10 per cent group. Up to this moment, there has only been a subconscious mental state of parenthood. The prospective parents have followed their directions, hoping for the best possible results. Now, with the first intake of breath of the infant, consciousness of the responsibility of parenthood begins.

During the actual process of labor, the mother's senses have been kindly dulled, but the father's emotions are overstimulated; he wonders how his wife will endure the ordeal. Will it be a boy or a girl? How much will the baby weigh?

It is fortunate that the parents, at the time of birth, cannot be cognizant of all the birth hazards known to the attending physician, such as various developmental deformities, bleeding, jaundice, brain hemorrhages due to difficult labor, which may result in later mental defects or paralysis; fractured bones resulting from difficult labor; or poor circulation or poor breathing from an improperly inflated lung, or from drug absorption from the mother; and others of an equally serious nature which may always occur at this time. All these possibilities are worries for the conscientious attending physician. Any one of these difficulties may affect the new baby's entire life and likewise change the course and purpose of the parents' lives. These things are mentioned here to impress on parents the great importance of selecting a well trained physician for prenatal and confinement care.

The able physician in the best equipped hospital is only human, and serious birth difficulties are bound to occur sometimes. But proper equipment and enough trained assistants tremendously decrease the hazard in a modern hospital, and many lives are saved and homes kept intact which would be lost and destroyed in the old method of home confinement with no equipment and only a kindly neighbor for an assistant. Actually, it is surprising how many of us of the older generation survived this ordeal—through the kindness of nature, we were kept among the 90 per cent!

The so-called postnatal period is a brief span of about six weeks, during which time the newborn child and its parents are starting to adjust themselves to each other. Tolerance and forbearance naturally must come entirely from the parents. The new baby is bound to cry; no one enjoys this but the father must remember that the mother endures it many more hours of the twenty-four than he does, and he must be even more tolerant and sympathetic. The mother's body during this time must make tremendous readjustments. Many of her muscles have been under a terrific strain, and it takes weeks for them to regain their normal strength and function; her internal organs must all readjust themselves to the normal requirements of her body. Her mental and emotional states, too, are now changed. Her body has been weakened, but the emotional state is now stable and she is happy—complacency and realization of added responsibilities have supplanted anxious fear.

The father must recognize all these readjustments. His emotions, however, have undergone a big change too. He feels paternal responsibility, his love and affection for his wife have increased. He must not only fulfil his legal and moral duty of support, but also

Days of Life

By C. W. WYCKOFF

the loving, fatherly duty of the care and training of this child. Participating in the actual care of the child increases the man's interest and love by an untold amount.

After the first three days of the infant's life, the consideration of greatest importance is usually its feeding. Nature has been kind enough to try to supply the food, but because of the stress of modern civilization, mother's milk often becomes a secondary choice. This should not and must not be so. There is not and never will be any artificial infant food which can compare with breast milk for the newborn! In the first few days breast milk contains, we have now learned, the much needed blood-thickening or clotting element in the colostrum. This has recently been identified as vitamin K. It prevents the bleeding or hemorrhages which may occur in the newborn and often may cause their death—or worse, if the hemorrhage should take place in the brain, it may cause the child to become a life-long, paralytic cripple or a mentally defective person. Then, too, this first milk is nature's laxative for the newborn, necessary to clean the intestinal tract of the accumulated material formed in the last few months of fetal life. Also, it starts the normal flow of the various digestive juices in the stomach and intestinal tract.

Another most important reason for giving the infant human breast milk whenever possible is the protection it gives against inherited food allergies. When the child is given natural milk for even a few weeks, its digestive tract is put in good running order, its assimilative functions are all normally started, its blood stream is fortified with so-called antibodies, or protection against infections, and the necessary minerals, such as iron, calcium and phosphorus, are supplied in abundance. The bones, muscles and nervous system grow and develop normally and rapidly. None of these essentials is accomplished nearly so rapidly or so well on any artificial formula during the early weeks and months of the new infant's life.

Because of too much emphasis on weight gain in the first two weeks, a bottle of formula is sometimes given in the hospital immediately after birth. This, of course, allays the newborn baby's hunger, and it is so easily taken from a rubber nipple that he dislikes to work harder to get food from the mother's breast. As a result of this lack of stimulation, the supply of breast milk does not come properly or is soon lost. Another fault in some hospitals is that only one breast is given at each nursing; if this is insufficient, a formula is added instead of giving the infant both breasts at each feeding. Too many newborn babies are taken off the mother's breast because of sore nipples or tender mammary glands. This can often be prevented by proper care in the last two months of pregnancy.

The question is frequently asked, "Why can't mothers today nurse their babies?" Some of the foregoing comments have partially answered this query. Every new mother today, if she understands the value of human milk and also the physical advantage to herself of nursing her infant, is willing and anxious to perform her duty to her offspring. Both parents should be properly instructed along these lines before the arrival of the infant. Certainly there can be no normal woman today who holds social obligations or worldly pleasures above the joy and satisfaction of fulfilling her mother's duty of suckling her child. It is true that the tenor of modern civilization has somewhat decreased the number of naturally fed babies and has in most instances cut nature's allotted nursing time of nine months to three or four months. But these few months are the birthright of every infant, and they also mean happier months for the parents and usually a better developed child.

When nature delivers the newborn infant, the parents must realize that it is no saint. It has nobody's disposition or nervous makeup; it is simply an uncivilized human animal. Hence the training of the infant, as well as that of the parent, must begin early. Both profit most when the parents are governed by common sense and intelligence rather than by unwise sentiment and nervousness. Regularity of feeding and care soon establishes the right habits in the young animal. The baby must learn that every cry does not bring attention; he will soon conform if let alone. He should have quiet surroundings and be kept comfortably warm but not too heavily covered. He is naturally a warm *(Continued on page 229)*

MUCH of the good luck and more of the reputed "pull" which we hear credited to Smith, Jones or Brown can more accurately be attributed to personality. They win friends. They are thoroughly likable. They have a way about them that puts them across. In short, their personalities are positive.

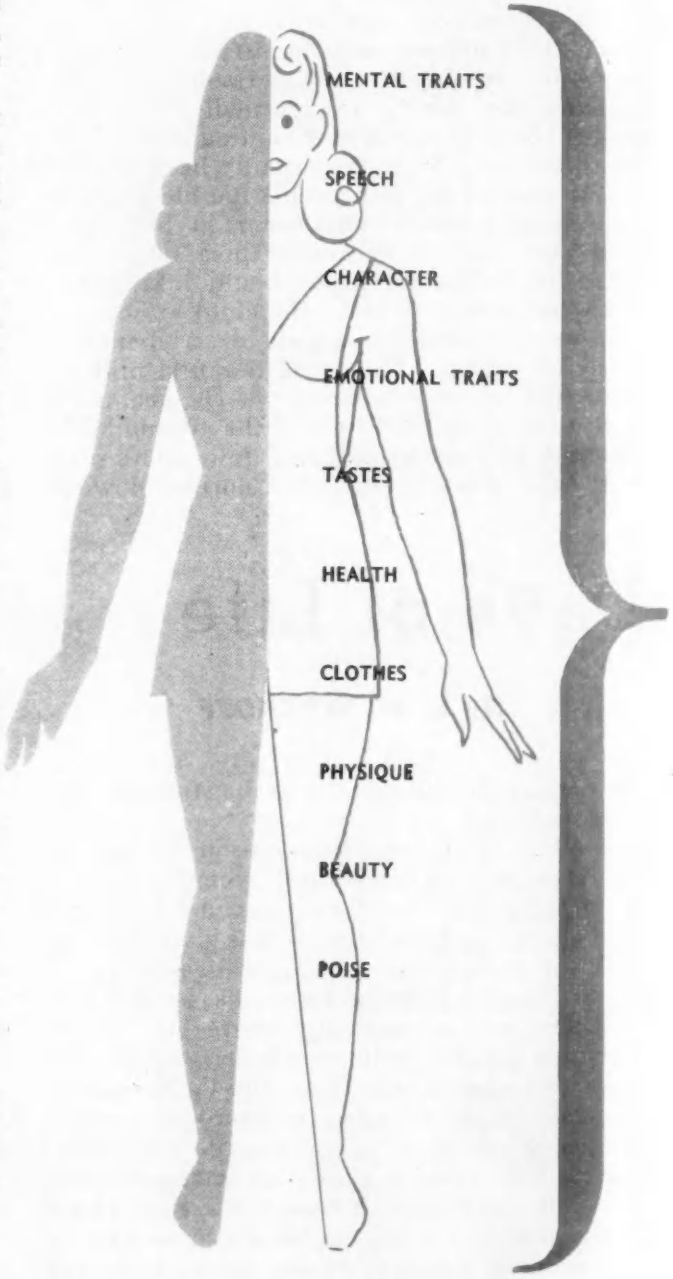
A company wanted to employ a girl with a "telephone personality." Another firm let an employee go because she had a repulsive personality. The president of a college dismissed a professor and later was heard to comment, "I never saw a woman with a more unlikable personality for a teacher."

What is personality? Something that must be important, since it looms so perceptibly in every person's life. Those who have studied the subject say that personality rates better than three-fourths in securing a position and in holding one after it is secured. Certainly it cannot be anything superficial nor artificial. It is not one thing alone but a number of things working together. It is not beauty alone, or character alone, or clothes alone, or speech alone. On the other hand, all these things work together for good or ill. Even if we fail to define it, we all recognize it. Watch the effect one person has on another, or on a group. The effect will be determined by every trait of the person—that is, his physical, mental, emotional and social traits work together either to contribute to or hinder his social effectiveness.

We all have personalities of one kind or another. All of us want the best personality possible, for we want to be liked, to have power and influence with others of our kind. Not many things experienced by man or woman are so disastrous as thinking they are different. When a crow produces white feathers, other crows resent it and pester him. So with the child who is too tall, or too short, or in any way different from others of his age level; he becomes an object of scorn and is pestered by his unsympathetic playmates. Freakish men and women must be unhappy. They differ from the general pattern, so they lack personality appeal.

Certainly health—physical, mental and emotional—is significant in personality. Any observation of children who have been sick will show that the unhappy experience tells on their personality. If they are sick a great deal, the pampering and spoiling which they receive carries over into their adult behavior. Furthermore, the washed out, listless person is seldom attractive and rarely influential in a group. Even the person who seems to enjoy poor health is likely to become boresome with his repertoire of ills. Thomas Carlyle was notoriously difficult to live with. His wife is reported to have advised a group of women never to marry a genius. More than likely that was a good wife's explanation of Carlyle's disposition, for it is generally believed that he ruined his digestion as a young man in college by living on an improper diet.

A person's physical condition is likely to disrupt his whole personality. An aching tooth, a sore eye or a severe headache may be nature's warning to the sufferer, but they are also everybody's warning to keep away from him. Compare such a person with the man or woman



who is in buoyant health. A person in such perfect health that it is a joy to be alive can have more than one disfigurement and still rate as a charming person. Here is a friend who says she has "disgustingly good" health! If it is true that a man's health is not so good as it should be until he can forget it, then this friend has few worries. She ushers in optimism whenever she calls. Her eyes sparkle. Her skin is without blemish. Obviously, she has a personality that wins. Good health does reflect in one's skin, in one's eyes and in his walk. Of course, it shows in his speech, too. The woman with good health possesses the kind of beauty that is lasting.

In the popular mind, the body is the self; at least it is symbolic of the self. Perhaps that attitude is more pronounced in youth than in adulthood, but it is always more or less true. My body is for all practical purposes the most realistic thing in the world. I can see it and

Health and PERSONALITY

By CALVIN T. RYAN

touch it. It is real. Others may see it and touch it. For them I am real. Whatever impression my physical self makes is going to count either for me or against me. It reflects my emotional, intellectual and social traits and attitudes.

The crippled or malformed body is a double misfortune. Apart from the inconvenience and suffering of that body, the impression it makes on others is likely to be unfavorable. The Hunchback of Notre Dame carried off a prize for the appearance he made, but he always remained an evil influence. Such an unfortunate human being must have many redeeming features to counterbalance this first impression. That is, he must have qualities of intellect or gifts which draw people to him despite his handicaps. Furthermore, the person with a handicap is likely to feel inferior to others. He may become morose. Whatever the effect on his emotional stability may be, it shows itself in the presence of others.

My voice is also an essential part of my personality, and my voice is conditioned by my health. A too great disturbance of my normal speech interferes with my livelihood. A weak personality displays itself most perceptibly in a person's speech. Some organic disturbance in the so-called speech organs may cause a person to leave the wrong impression of himself. Consciousness of one's bad speech habits will reflect on one's personality. Stutterers are no more common among those of low or average intelligence than among those of high I. Q. On the other hand, the child who is a persistent stutterer is likely to be retarded in his school work, and that retardation is bound to reflect on his personality. No two persons speak the same way; nevertheless, we accept some imaginary standard, and he who deviates too far from that standard is not accepted. He is regarded as different—too different.

We are told now by the medical profession that what a man believes has something to do with his health. The word health is now coming to include sanity of beliefs as well as soundness of body. Man's beliefs add to the quality of life and give it value, and may also prolong it. For a thorough examination, the physician must include the whole patient—that is, not only his anatomy but his psychology.

What a person deeply wants to get from life, his sense of values, has much to do with personality. One definition of personality is the likes and dislikes of the individual "that determine his behavior and become crystallized into permanent attitude." If the essential values are harmonious and valid, then the person will have an "integrated personality." Think of the opposite: If the values are incompatible, the result will be mental conflict.

It is clear that a man's sanity of beliefs, his sense of values, will influence his ability to get along with others. While one should not be a "yes man" nor strive too hard to be like others, he should not, on the other hand, expect to be received in all groups if he holds too many beliefs which differ radically from those held by members of the groups. One should have an individuality. One should prefer to be oneself. But too much of either attitude will make one less welcome in a group.

The "beautiful but dumb" ladies of the silent movies were outmoded when talking pictures came in. Personality is not all looks and not even all "acting." Part of it is intelligence of another order. It requires intelligence of a kind to adjust oneself to a group. It requires a definite mental poise to get along with people. The mentally un- *(Continued on page 239)*

British Combine, Ltd.

TODAY AND IN AVIATION MEDICINE

By WALTER S. JENSEN

THE ENEMY'S dream of world-wide conquest has made this a global war, but it is our fighting men in oxygen masks and electrically heated flying suits at the controls of 30 ton, turbo-supercharged bombing planes who are making it a stratospheric war. Not content to zoom all over the world in airplanes flying faster than ever before in the history of man, we also are flying higher, rising into the once mythical and only partially charted stratosphere, high in the gaseous blanket that envelopes the earth, to bring retribution to the forces of Germany, Japan and their satellites.

This kind of air warfare, at altitudes of from 10,000 to 40,000 feet, brings with it a whole new world of medicine. It may be hard for the layman to appreciate the peculiar strains placed on men who make up the crews of planes capable of attaining speeds of 300 to 400 miles an hour in a world far above the earth's atmosphere, where men never were designed physically to go. But those of us whose business is aviation medicine are constantly at work to bridge the gap between the performance of our men and the performance of their perfectly engineered machines, to select them for their ability to exist—and to perform—under stratospheric conditions, to equip them with all the safety devices that medical engineering can devise, to so study their reactions on the ground and in the air that we can keep them the perfect physical specimens they are when they finish their flying training.

Man, for the first several million years of his existence, was essentially a three-to-fifteen-mile-an-hour individual. His activities were in two planes and limited to the surface of the earth and sea. In contrast, the generation of today finds itself capable of operating in excess of 400 miles an hour and no longer is limited by the surface of the earth and sea.

We are making possible—through selection and training and the use of mechanical, chemical and other aids—the adaptation of the average person to a strange, wonderful, just-beginning-to-be-known environment. This is one of the roles of aviation medicine.

Aviation medicine consists principally of the highest order of general medicine, strengthened by physiology, psychology, psychiatry, engineering and a host of other sciences. It functions not only through the application of the knowledge of these sciences to man but also through the application of a knowledge of men to these other sciences. It is devoted not only to curing the sick and healing the wounded but also to preventing human failures. The first step in the making of a stratospheric flyer is his selection by the rules of aviation medicine. He must be between the ages of 18 to 26 and have no physical defects. But, besides this, he must have what might be called nervous stability. He must be emotionally sound, self-controlled, have judgment and the necessary coordination to carry out his reactions promptly.

Nowadays, we get hundreds of thousands of candidates. We want to train and graduate as many as possible, without lowering standards which might later result in endangering the man, his comrades in his plane and the

plane itself. Therefore we have devised physical and mental tests to show what sort of man each is before we accept him and to enable us to predict his chances of successfully completing flying training. It takes two full days for candidates to go through the tests. They are asked everything from: "Have you ever had a nightmare?" to "Do you stutter?" and "Have you ever fainted?" Among other tests, we put them in a machine called the coordinator, where they are given the problem of pressing buttons to bring lights in line with each other—and while they are concentrating on that, we attempt to distract them, without warning—to test their reactions to noise and surprise. We take blood tests, watch carefully and note if they react to the sight of blood. This series of detailed tests gives us most of our answers to whether the men will make pilots, bombardiers or navigators. However, the personal judgment of the flight surgeon is still the important factor in choices. Requirements for each of these three jobs vary. In general, the pilot should be a man who has emotional stability but also a sense of adventure; a typical one is a boy who has gone through school active in athletics—baseball, football, tennis. But he is not phlegmatic. He is the fellow who plays end or in the backfield on the football fields, not in the line—for brute strength is not what counts in pilots. The bombardier is the fellow who can sit out in front and take it—the lineman in the football game, tough—steady. The navigator is the type who figures things out by slide rule.

Of course, all airmen must have the three sights: visual sight, foresight and insight. The forces of gravity pre- *(Continued on page 216)*

TOMORROW

Modern equipment for flying at high altitudes has been developed carefully as scientific knowledge of the effects of altitude on the body increased. Plane and flyers are adjusted to the stratosphere by the equipment shown below and on opposite page

British Combine, Ltd.

STRAIGHT TALK ABOUT

By EDITH M. STERN

"POOR Theresa Barrett!" my neighbor said darkly. "Do you know where she has been all week?"

I didn't.

Her voice sank still lower. "The lunatic asylum! Henry went violently insane and she had to put him away!"

My neighbor was using the phraseology too many of us apply to mental illness. She didn't realize not only that her vocabulary was a medical century behind the times but also that by speaking of Henry's affliction in these doleful, antiquated terms she was making things harder for Theresa and actually, though unconsciously, slowing up progress in mental hygiene. Muddled, overpessimistic terminology contributes to the muddled thinking and what-can-be-done-about-it-anyway indifference that keep our mental hospitals crowded.

"Maybe it's because I'm a writer," I told her, "that I think words are so important. Discount for that if you like. But honestly, don't you agree that words reflect attitudes, that attitudes are created by words, and that no improvement ever comes without the right attitudes? If you had to go on relief, wouldn't you have more self respect as a 'client' than as a 'pauper'? Hasn't welfare work changed for the better since we say 'social service' instead of 'charity'?"

"I don't see what that has to do with Henry's going crazy," my neighbor said.

Like many other laymen, she didn't realize that Henry was sick, sick as surely as though he had appendicitis or tuberculosis or diabetes, and that his mental breakdown should have been discussed no differently from a physical breakdown. His mind wasn't working right, so he had to have care and treatment—just as he would if his body hadn't been working right. They're different things, and give rise to different emotions—sending some one for "treatment" in hope of cure, and "putting him away." Nobody says or feels that patients in general hospitals or tuberculosis sanitariums are "put away." The assumption is that some day they'll go home again, well.

That assumption is also justified in case of mental illness. The national average of mental hospital patients discharged fully recovered or sufficiently improved to take up life in the community again is about 40 per cent; in the best hospitals, discharge rates run as high as 50 to 60 per cent. And the vast majority of these restorations of mental health occur during the first eighteen months of hospitalization.

That's why the modern term "mental hospital" is not only more hopeful but also more accurate than "asylum." An asylum by definition is "a sanctuary or place of refuge and protection." Its "inmates" get little more than shelter and lifelong custodial care. But a hospital, which houses "patients," is "an institution in which sick or injured are given medical or surgical care."

Now it is unfortunately true that some of our institutions for people like Henry Barrett lack facilities for up to date, scientific treatment and are little more than asylums. But our many good mental hospitals are hospitals in more than name. From the moment a patient enters until the time he leaves, he is given treatment. That treatment may be—though less often than the uninformed think—medication. It may be one of the various kinds of shock therapy—chemical, electrical, insulin or metrazol—which have been found effective. It may be treatment with water—soothing baths or stimulating sprays. It may be massage. It may be occupational therapy, cure through work that gives patients new interests in life, reborn abilities to concentrate and to gain a healthful sense of achievement.

Or the treatment may be psychotherapy—talks with psychiatrists enabling patients to understand where they have gone off on a tangent and resulting in their thinking straight again. Life in the wards, too—week by week, day by day, hour by hour—is treatment. Each minute of regular living and hygienic habits counts in leading the confused and distorted mind back into normal ways of believing and behaving.

Once there was nothing but asylums. But to call a good state or private hospital an asylum today is like calling a jeep a horseless carriage. Similarly obsolete terms are "guards" or "keepers." They were accurate enough a century ago, when mentally sick men and women were looked on as vicious, wild animals to be chained and caged. Nowadays "attendants" makes more sense. Attendants are employed in mental hospitals to tend to, or to take care of patients.

But most of all, perhaps, we unwittingly harm the mentally ill by the words we apply to their condition. "Nuts," of course, adds vul-

SICK MINDS

DON'T SAY	DO SAY
Asylum	Mental hospital
Put away	Taking treatment
Inmate	Patient
Guard, keeper	Attendant
Nuts, crazy, insane	Mentally ill
Violent	Assaultive
Tainted	Maladjusted

gar insult to callous injury. "Lunatic" is of medieval vintage. Derived from the Latin word *luna*, meaning the moon, it is a hangover from the days when mental disorders were thought to have been caused by demons, with the exorcising of the evil spirits the only cure. In "lunacy" and "lunatic," which unfortunately survive in many statutes, there is no implication that science can be called on for help. If we had clung to the suggestion that appendicitis was caused by demons, surgery wouldn't be saving so many lives!

"Crazy" also is a misleading word. It connotes a jumble of symptoms without rhyme or reason and hence futile to interpret, whereas it's a fact that no matter how irrational or bewildering or unpredictable a mental patient's behavior may seem to his grieving family and friends, it probably falls into a pattern thoroughly familiar to any psychiatrist. Specialists in diseases of the mind can recognize, classify, foretell and cure certain types of behavior almost as accurately as a good family physician can foretell the course of pneumonia and cure it.

As for the term "insane" which my neighbor applied to Henry Barrett, well, Henry was insane only because a court had declared him so. "Insane" and "insanity" are purely legal terms without medical significance, and because in nearly all states our lawmakers haven't caught up with the doctors, the legal definition of "insanity" bears little relation to modern conceptions of mental illness. That's why, so often, you'll find perfectly sincere and competent psychiatrists disagreeing on the witness stand as to whether or not an accused person is "insane," though they may all be agreed that he's mentally ill!

Since it is medical men and not lawyers on whom we must depend for cure of mental disorders, we ought not to confuse the issues by speaking of one thing when our hope lies in the other. Some day, perhaps, we'll even be sufficiently enlightened to leave questions of mental health entirely to doctors rather than to judges or juries, just as we now trust them to tell us when we must be quarantined against infectious diseases.

My neighbor's reference to "violence" showed also that she held a common misconception. Actually, "violence" in mental patients is rather rare, and doctors and nurses in good hospitals never use the word. Occasionally, a patient whose daydreaming is disturbed when he must eat or comb his hair or go for a walk becomes "assaultive." But small, frail nurses have worked for years among seriously ill huskies without encountering "violence" or suffering the slightest injury.

Misconception piles on misconception. The usual picture of a mental patient is of some one who thinks he is Napoleon, or who cuts out paper dolls, or who raves and tears his hair. The most experienced psychiatrist of my acquaintance tells me he has never had a patient who fancied himself to be Napoleon. A psychiatric nurse with years of experience reports that she has never seen a patient cutting out paper dolls. And noisy, "disturbed" patients are only a small fraction of the population of a mental hospital.

Many people think that mental illness strikes an individual because "there's something in the family." This error leads to two ways of making a bad enough matter worse. First, because family taints are considered shameful, relatives of the mentally ill often wait too long before they call in medical help, and so reduce chances of cure. Second, it gives rise to the feeling that the victim of a mental disease is doomed by heredity. Authorities today believe that most mental illness springs from some maladjustment dating back to childhood; this concept puts mental illness in the hopeful category of curable and preventable disease.

Mental hospitals are usually envisioned as dreary places where wild-eyed folk are kept behind bars or confined in straitjackets. The facts are that good ones have a peaceful and astonishingly agreeable atmosphere; doors of many wards are kept unlocked, with the patients free to go out on the grounds. Bars are becoming rarer, and in many hospitals no mechanical restraint is used.

As soon as my neighbor realized that Henry wasn't being imprisoned or punished, as soon as she took him simply for the sick man that he was, she no longer discussed the Barretts' misfortune in hushed and horrified whispers. She periodically asked Theresa about his progress as though he were at any other kind of hospital, and when he *(Continued on page 230)*

Clinical

By M. G. WESTMORELAND

MARY CUMMINS had just completed her interview with the director of the hospital laboratory. Now she had been accepted for training as a technician.

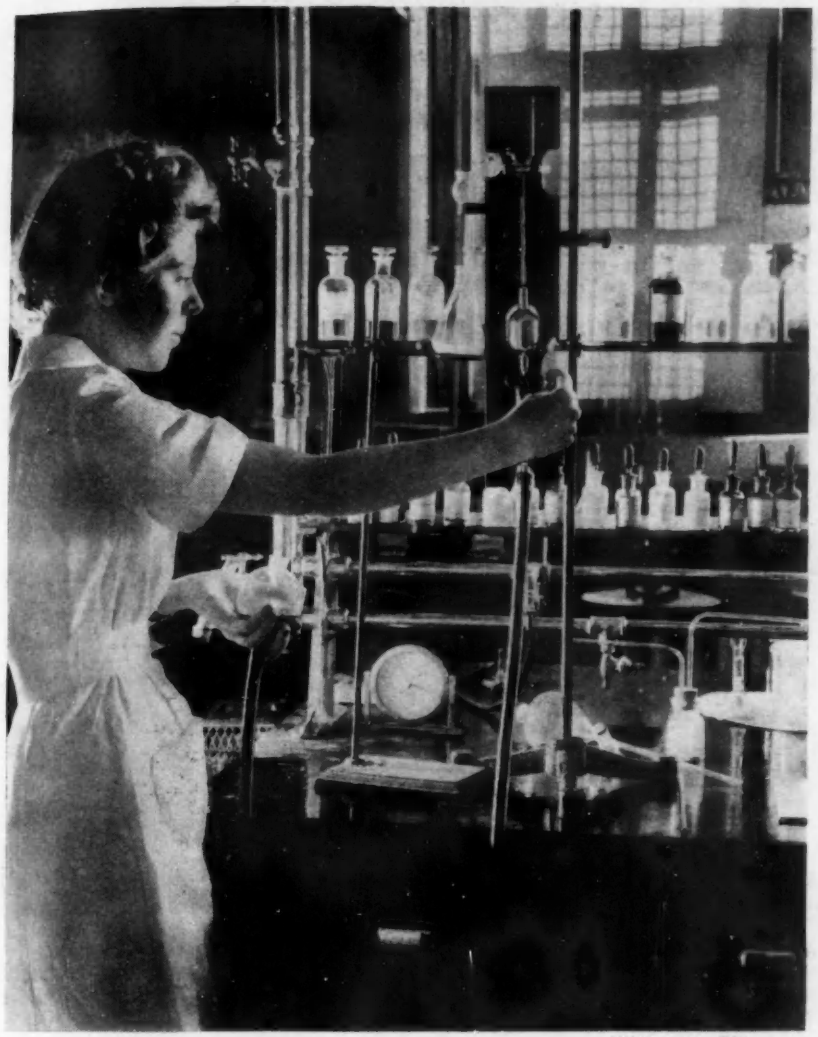
All through school the science subjects had been interesting to her, and in this profession her chemistry and biology training would be useful. Furthermore, it was possible to help others by being able to assist physicians to make diagnoses. Perhaps that was another reason she had decided to become a technician. The study of medicine had had a strong appeal for Mary, but she did not wish to practice, although she knew she would like to work with sick people.

William M. Rittase

Technician in hospital laboratory prepares slides for microscopic examination by the pathologist

Her decision to become a laboratory technician was the result of a conversation with her adviser at school. They had talked of many possibilities, but of all the professions they had discussed, work in a hospital laboratory had sounded most interesting to Mary. Together they quickly reviewed the entrance requirements of the approved schools for laboratory technicians and found that only two years of college work were necessary. Certain courses in chemistry and biology were required. To Mary's surprise only general and quantitative chemistry were listed, and a single good course in biology might be sufficient. Physics was not required. She looked to see what tuition she would have to pay and discovered that many schools did not charge for this training. The adviser suggested that it would be a good idea to get the latest list of approved schools. She could get this free of charge by writing the American Medical Assoication, 535 North Dearborn Street, Chicago. This information could also be found in the school library by referring to *The Journal* of the American Medical Association. In the Hospital Number, usually one of the March issues of *The Journal*, there would be much information on this and related subjects. All the approved schools are located in hospitals where the practical training is given. A revised list, including hospitals recently approved for this type of training, would be printed in this issue of *The Journal*. Several changes would be reported in the statistical data for each school.

Mary selected a well known local hospital because that would permit her to remain close to her many friends, and an appointment was made to visit the hospital laboratory. During this visit Mary was introduced to the pathologist who directed the laboratory. At first the conversation was devoted to the scholastic training which Mary had completed. The pathologist explained many things to her. Students need a certain minimum background in order to study and understand the subjects



William M. Rittase

Hospital technicians must know chemistry and other sciences as well as hundreds of specific procedures

Laboratory Technicians

included in the curriculum of the school. Chemistry, bacteriology, serology, hematology, parasitology and the preparation of slides for microscopic study comprise the major part of the training program. Such a program is recommended for registration by the American Society of Clinical Pathologists. The Board of Registry of that society maintain offices at the Ball Memorial Hospital in Muncie, Ind. Individuals who successfully pass the Registry examination are given the privilege of adding M.T. (A.S.C.P.) to their signatures.

Some students who plan to be technicians also want a college degree, and this is easily accomplished. Almost half the approved schools maintain affiliations with accredited colleges. Three fourths of these affiliations permit the students to receive college credit for the time devoted to hospital training. The majority of these affiliations result in a complete year of college credit. Such a program is designed for the students who desire more than a minimum background of prerequisite training. Technicians who have a degree and the extra training that it implies are usually in greater demand. Frequently these technicians are given more responsible positions in the laboratory. The college curriculum contains courses in chemistry and biology, which are important in laboratory studies.

The conversation was adeptly changed so that any questions in the mind of Mary Cummins could be answered. Uppermost, of course, was the present and future need for technicians. Instead of forming a hasty answer, the pathologist enlarged on the subject. Before the war started there were many vacancies for technicians in civilian hospitals—in spite of the fact that approximately 175 schools were approved for this training. In addition, technicians were being trained by apprenticeship methods.

Many technicians have been drawn into defense industries because they can qualify as chemists. Many have joined the armed forces through the WAC and the WAVES. The United States Civil Service Commission is faced with the necessity of recruiting large numbers of technicians for veterans' hospitals and other government installations. All this has occurred without a *(Continued on page 231)*

POSTURE BUILDERS

YOUR body may or may not be in perfect balance. One of the purposes of planned exercise is to develop or preserve this balance. When you exercise one set of muscles it is necessary to develop the opposing set of muscles to an equal degree. This results in perfect harmony and coordination among various parts of the body.

This is particularly true of the back and neck muscles. This set of muscles acts in opposition to the chest muscles. To achieve correct position you must balance the strength in these two sections.

KNOW YOUR BACK MUSCLES

The large muscle attached on either side of the spine from the neck, reaching halfway down the back, is the "trapezius." It is attached to the collar bone and the tip of the shoulder blades. When this muscle lacks tone the shoulders tend to fall forward. Result: round shoulders.

Beneath the trapezius muscle are other muscles which work to keep the shoulder blades close to the spine and ribs. When these muscles are flabby the result is an irregular back—caused by shoulder blades that stick out like wings.

BACK MUSCLES HELP YOU STAND ERECT

Other muscles running up and down the spine keep the spine erect. When they're strong, you stand erect. When they're weak, you slump. The muscles of the neck and upper back function to keep the head in a balanced position. When the head is carried in a forward position these muscles are badly strained. This habit may, in its worst form, cause neckaches and headaches. It is important to develop a proud and erect carriage of the head. First, for reasons of health; second, for an attractive appearance.

PLANNED EXERCISE DEVELOPS BACK MUSCLES

The back muscles are important in nearly everything you do. They function whenever the shoulders are drawn back, whenever you draw up your trunk in an erect position, whenever you bend over and straighten up. They are important posture builders. Develop these muscles.

ARM PULL BACK. Assume position shown above. Move hands and arms slowly as far back from body as possible. Relax. Repeat. Keep hips tucked under.

PRAISE ALLAH. Kneel to sit on heels. Clasp hands behind back with arms straight. Slowly bend body to touch chest to knees while moving hands and arms back and up away from body. Keep your head and your eyes well up. Return to starting position and repeat.

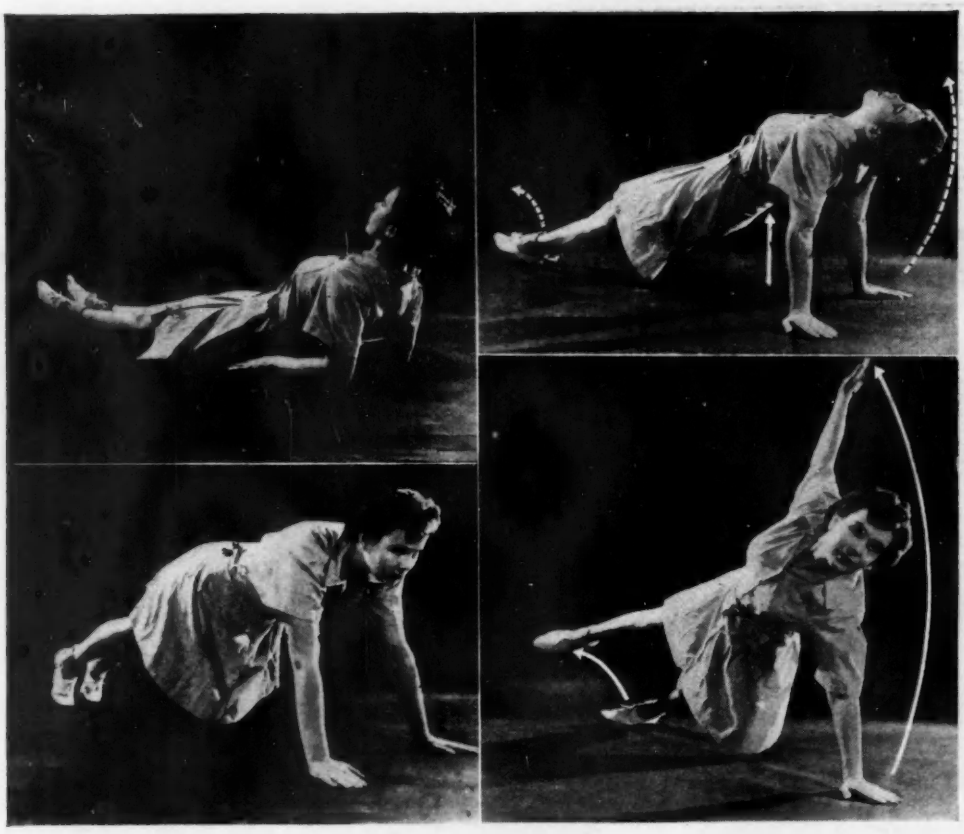
These important posture-building exercises are taken with permission from the W.A.C. Field Manual of Physical Training. This is the fifth in a series of articles adapted from the Manual for HYGEIA readers. The sixth article, coming in next month's HYGEIA, will present a series of exercises designed to build leg strength.—*The Editor*

MANY TASKS DEMAND STRONG BACKS AND NECKS

HALF SWAN. Lie on face, hands clasped behind hips. Lift hands, arms, head, and shoulders as high as possible. Hold position. Relax. Repeat. The same action may be made more strenuous by changing starting position to that shown above—with arms at shoulder height. Do not strain lower back.

CROSS-LEGGED PULL. Assume position shown above. *A* pulls against *B*'s resistance until arm positions are reversed. Then *B* pulls with *A* resisting to return to starting position. Avoid body movement. Keep hands at shoulder height throughout. Use knees to brace against partner during pull.

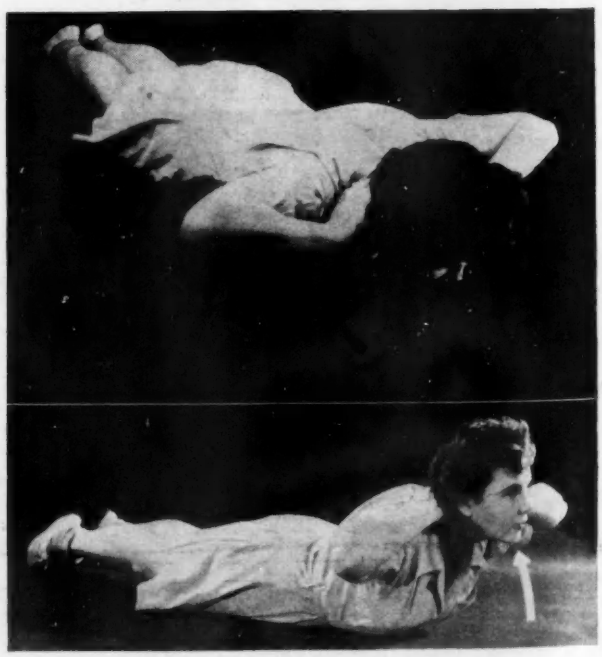
PARTNER ELBOW RESISTANCE. Assume position shown above. *A*'s arms are folded at shoulder height. *B* places hands against *A*'s elbows. *A* pushes elbows back at shoulder height; *B* resists enough to make it difficult. *B* pushes *A*'s arms back to starting position, *A* offering resistance.



TURN OVER. Sit on floor, knees and legs straight, hands opposite chest, elbows on floor supporting trunk. Straighten the elbows, turn the fingers toward the head, and lift the hips so that the body is supported on heels and hands. Turn from a back-down supported position to a prone fall position by turning to the left. Lift the right leg and right arm up into the air and bring them down across body to the prone fall position. Continue turning in same direction by lifting left leg and arm up into air and returning to starting position. Relax. Repeat movement going in other direction.

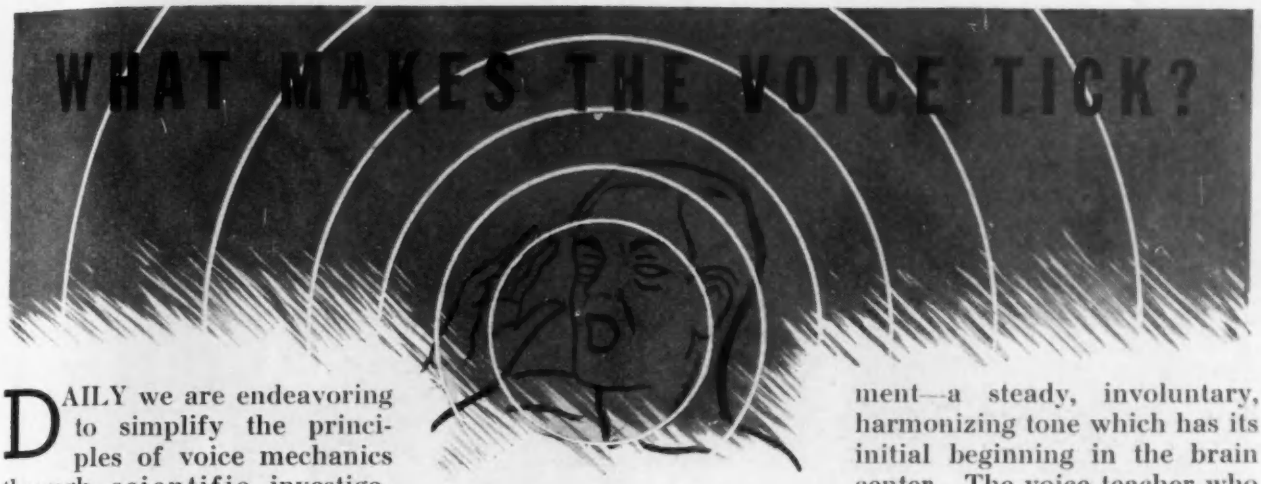
RESIST AND ASSIST

RESISTANCE EXERCISES: In working with a partner, it is important to understand the principle of resistance. The partner is there to offer just enough resistance to make you work a little harder than you would need to if she were not there. Care should be taken that the resistance is not so great that the exercise must be done poorly. Resist only enough to make the exercise difficult; not enough to make it impossible. The amount of force applied necessarily varies with the exercise performed and the individual performing the exercise. Learn to recognize muscle groups, to make them work against your resistance. Review the Imaginary Push and Pull in the Shoulder and Arm Strength Progression (January HYGEIA), keeping in mind the principle of resistance. Remember—apply resistance to make the exercise difficult, not to make it impossible.



WING LIFTS. Lie on face with hands clasped behind neck. Lift head and chest approximately 12 inches from ground, keeping feet in contact with ground. If chest is lifted higher than 12 inches it involves more than contraction of upper back and neck muscles. Return to starting position. Repeat as many times as possible in a quick rhythm. Elbows should not touch floor throughout the exercise. The number of times the exercise is performed should be increased as your strength increases. This is the last exercise in the back and neck strength progression and as such is included in the daily exercise series. It may also be used as a self-testing activity and you can actually see your day-by-day improvement by keeping count of the number of performances you can do correctly. The exercise is not difficult to perform but should be continued only as long as good form can be maintained. There should be a distinct moment of relaxation at the starting position each time to avoid a rocking movement which often occurs when the exercise is done continuously. The hands should offer resistance at the neck. This will improve the tone of the neck muscles.

WHAT MAKES THE VOICE TICK?

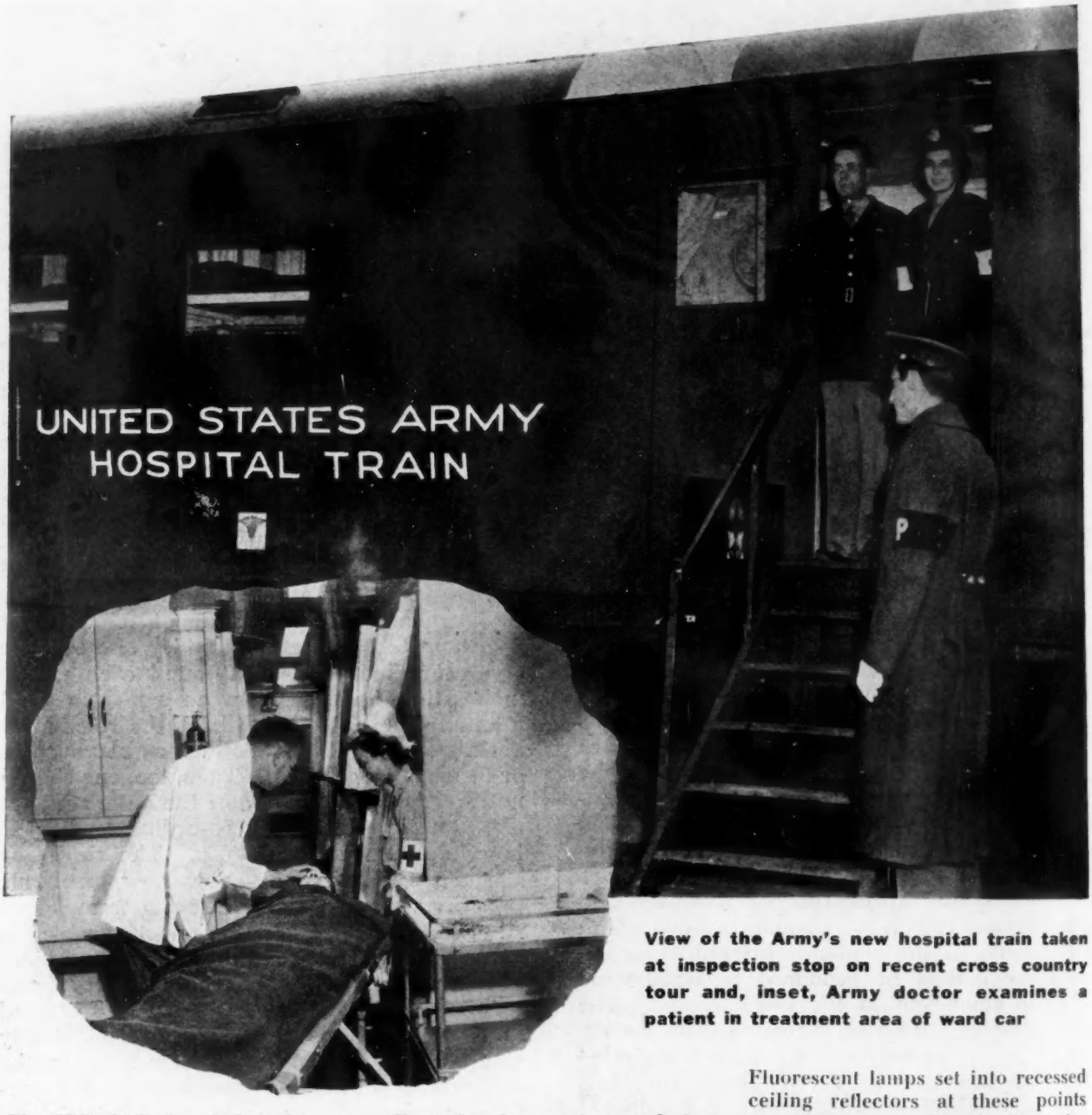


This short article by LEON FELDERMAN debunks some nonsense about voice mechanics in speaking and singing

DAILY we are endeavoring to simplify the principles of voice mechanics through scientific investigations. One of the questions which plagues the acoustic researcher is what happens to a word when it is released from the mouth of a speaker. What are its mechanics? A physicist would explain that the spoken word creates a "pressure wave," which is composed of a succession of condensations and rarefactions of the air; or he will advance the familiar corollary that a sound wave follows the line of least resistance until it meets with solid objects, when it breaks up into a series of secondary waves until the vocal force is spent. But the hard-headed realist seeks a practical explanation of what makes the human voice tick. In speech, as in singing, we have a combination of consonant and vowel sounds, which are shifted to various degrees of intensity and pitch depending on the number of vowels and consonants of the sentence uttered.

Before it may be produced, a sound must first be conceived in the brain center. The thoracic cage, or chest, surrounded by the rib structure in the manner of a barrel encircled with hoops, acts as a reservoir for air pressure. This thoracic cage under normal conditions expands, contracts and adjusts easily, depending on the flow of air pressure within the chest. The air is gradually piped through the vibrator of the voice box. Once the measured air passes through the voice box, it meets with resistance at the buccal or pharyngeal region, composed of lips, hard and soft palate, tongue and many other soft or hard structures. These structures have often been alluded to as the "resonators" of voice dynamics; it is here that the spoken word receives its final molding.

For a human being to utter a sound in speech or sing a phrase with any degree of success, he must parcel out air pressure judiciously from the lungs and be free from inhibitions. All this must be accomplished in one movement—a steady, involuntary, harmonizing tone which has its initial beginning in the brain center. The voice teacher who instructs his pupils about the position of the jaw or tells them how to "shift the sound around the pillars of the tonsils" shows unfamiliarity with voice fundamentals. Such notions should be relegated to the nonexistent category, for they are not only unscientific teachings, but also help to confuse the pupil. The speaker or singer aims to project sound evenly; this makes the difference between a pleasing and a harsh sound. To be natural, the voice must be free of mental hazards such as nervousness or forms of stage fright. Then, too, one should not overlook the function of the outer muscles of the neck, which must co-ordinate with the inner muscles of the larynx. The singer or speaker who does not know how much air pressure to allocate will throw a tremendous strain on the voice box, the effect of which is visible to the onlooker in strained, prominent or taut neck muscles. The speaker's voice will have a strange, strident or hoarse effect, and in the case of the singer, he will inevitably sing off key. When the balance between the two sets of muscles is coordinated, the performer can swing with ease from pianissimo to fortissimo or the reverse when he wishes to produce a desired sound effect. Radio singers or speakers who have "voice naturalness" succeed because they know instinctively how to bring about voice modulation with perfect ease in an effortless, perfect manner.



View of the Army's new hospital train taken at inspection stop on recent cross country tour and, inset, Army doctor examines a patient in treatment area of ward car

A TEN CAR hospital train accommodating ninety-six patients and staffed by five doctors, seven nurses and thirty-three enlisted men has recently been completed by the United States Army Medical Department. The train is now being used for instruction of Medical Department personnel in the Southwest preparatory to shipment overseas for service in a combat area.

The last word in modern equipment for the transportation of wounded, the all steel train consists of six ward and four service cars, all narrower and shorter than standard American railroad cars and specially constructed to restrict roll on the sharp curves and steep inclines characteristic of foreign roadbeds.

Each car has beds for sixteen patients, arranged double-deck fashion so the berths may be folded back to provide accommodations for a still larger number of ambulatory patients. A space free of berths in the center of the car may be used as an emergency operating room or treatment area. Double doors at the ends of the cars make it possible for stretcher patients to be moved the length of the train on portable standards; the standards may also be fixed in position in the emergency areas to serve as emergency operating tables. Fluorescent lamps set into recessed ceiling reflectors at these points provide ample illumination for operations. The four service cars include space for generators and steam boilers for heating, cooking, ventilating and sterilization equipment; kitchen and dining facilities; pharmaceutical and surgical supplies; and living quarters for the personnel.

En route across country from Boston to the training area where it is now in service, the new hospital train made a series of stops for public inspection. Medical Corps officers on board during the tour said it is expected that further units of the same kind may be ordered for the Army in the near future.

Modern bacteriological research is applied to the study of cosmetics at the Hudnut Institute for Dermatological Research

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We believe that cosmetics are part of personal charm, while health belongs to the field of medicine. But because the average woman's skin is in such constant contact with cosmetics, the Richard Hudnut organization considers it essential to give their beauty products a truly scientific background. The Hudnut Institute for Dermatological Research conducts exhaustive laboratory tests and analyses, to better the products and develop new ones. One of the important results of this work has been to insure that most Richard Hudnut beauty preparations are free from all ingredients known to cause unfavorable skin reactions.

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If you punched a clock when you went to bed

IF YOU PUNCHED a time clock on going to bed, and again on arising, how many hours would your time card show?

Authorities say that adults need daily at least eight hours of sleep or rest in bed—children need considerably more. *This is especially true in these strenuous wartime days.*

Refreshing sleep comes more easily when you slow down and relax *before* bedtime. Try to forget your worries. They result in tension that defeats sleep. Try to have your bedroom dark, quiet, and well-ventilated. Bed clothing that weighs too heavily is an enemy of sleep. So is too much food, either solid or liquid, just before bedtime.

If you have difficulty getting to sleep, remember that complete relaxation is the next best thing. Relaxing physically means letting yourself "go limp all over." It is the exact opposite of tenseness.

You can teach yourself to relax. First, learn to recognize tenseness wherever it occurs in the body. Then, practice letting the tense muscles go limp. Try it at odd moments during the day—it is the secret of conserving energy.

Plenty of sound, *undisturbed* sleep is especially important to workers on a night shift. Someone—usually it will be the wife or mother—must take responsibility for planning the night worker's schedule on an orderly, regular basis. His bedroom should be away from family activity. A screen between window and bed will help shut out light. Some night workers have found that they go to the job more refreshed if they take their hours of sleep just before their working hours, rather than just after.

Healthy, normal sleep permits your heart, lungs, and other vital organs to "loaf" along. The body can then mend its worn-out tissues and build new ones. Your full quota of sleep should give you the renewed energy to carry you through the next day *feeling well, working efficiently, and in good spirits.*

To help you meet the increased pressure and strain of these busy days, Metropolitan will send you, on request, a free copy of a folder, 34-Z, entitled, *"Relax and Revive."*

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Nerves in Wartime

(Continued from page 175)

deed! Here the best preventive is work and productivity.

HESTER: In the early part of the war, weren't some of these unfortunate citizens evacuated?

VIETS: Yes. Evacuation has not solved this problem, however. In many instances, it has made the situation worse, just as running away always does. The solution lies in the organization of relief centers, health emergency committees, food and clothing distribution depots and cleaning-up squads, and the rapid resumption of transportation as conditions will permit. All this means work of some kind for every one. Putting it into action means careful, previously made plans for civilian defense.

HESTER: But the man whose home has been destroyed, whose family is lost, finds himself immediately with a job to do, a task which depends on him.

VIETS: The same is true for women. These measures not only save lives through the work accomplished, they also save minds.

HESTER: Certainly we are fortunate to be privileged to model our own defense plans on the successful example of these friends who have suffered the first devastating experiences of attack on civilian centers. Are we doing anything in our military procedure in this country to prevent and treat nervous and mental disorders?

VIETS: We're doing several things. First of all, we're preventing the breakdown of men in line of duty by careful selection of the soldier, sailor or Marine before enlistment.

HESTER: I understand that we had many cases of nervous disease as the result of World War I.

VIETS: With that in mind, our draft boards are making every effort to weed out the mentally unfit, or those whose margin of safety is so small that they might break down should they be inducted and sent into service of an exacting nature.

HESTER: I suppose allowance would have to be made for such a margin of safety.

VIETS: It is this group which gives us the most concern. It's no easy task which confronts a doctor when he must shoulder responsi-

bility for rejecting John Jones on the basis of his family or past history of nervous illness, and accepting Bill Green.

HESTER: Then it is established medical knowledge that a man who shows any tendency toward nervous disease should not serve in the armed forces?

VIETS: We are more sure of that than ever before in the history of medicine. Predisposition to nervous disease should definitely close the door to service in the armed forces. Men who possess such factors are almost certain to break down under conditions of modern warfare, where endurance is of such prime importance.

HESTER: And as he broke down, he might endanger the safety of many?

VIETS: A man who cannot adjust himself to a considerable degree, physically, socially and mentally, has no place in today's Army or Navy. He must, by the nature of his new job, largely lose his individuality, accept discipline, forego much of his privacy and submit to many gross personal inconveniences.

HESTER: It must take plenty of mental flexibility to meet such drastic changes!

VIETS: Only men with such nervous equipment make the best soldiers. And the best are needed, for we have implacable foes, well trained and ready to die for their country.

HESTER: So the medical examiner for the selective service boards has the task of determining the possibility of the selectee's mental strength.

VIETS: And the medical profession is doing that today, better than ever before.

HESTER: If by chance some of these men do slip through the induction sieve and become members of the armed forces, is proper medical care available to them?

VIETS: The finest medical care that has ever been given to soldiers or sailors at any time in the history of medicine is now offered. Should a boy break down in service, he will be adequately and skilfully cared for. Military medical standards have never been set higher; we have never come so near the goal of the best peacetime care.

HESTER: Are measures being taken to prevent nervous disorders among our soldiers, sailors and Marines?

VIETS: Such measures take place all along the line. With the Marines who were on Guadalcanal for six months, nervous breakdowns were comparatively rare. The morale was kept high by the spirit of equality; one man's chance was as good as the next man's. The foxhole for the major general was no bigger or safer than the one dug by the private. Every effort was made to provide hot food, mail and the comforts of sleep and shelter for every one. In many cases not one of these was possible. Food could not be gotten to the men; mail rotted in the bags; sleep was impossible. But the splendid work of medical corpsmen and doctors did much to uphold morale under as trying conditions as were ever faced by soldiers.

HESTER: The small number of nervous casualties there testifies to the quality of their effort as well as to the character and stamina of our fighting men!

VIETS: Our boys successfully survived these conditions because they were from an unconquerable people, conscious of something more than the personal issue, and because they knew those at home were ever mindful of what they were doing and how they were doing it. Such factors make for the best of morale. And with high morale, few nervous breakdowns occur.

Hospitalization on the Honor System

(Continued from page 181)

money to an organization have a right to know how that money is spent, it issues at the close of each year an annual report explaining its work, citing cases helped that year, giving the exact financial status, listing the members of the executive board and inviting other Glendale citizens to become members.

There is an old belief that we get back out of life what we give. Here is an instance in which we get back more than we give out. The patients whom the Auxiliary aids are so grateful for the prompt help given when needed that they not only pay back what they borrowed, but in most cases take out a membership in the organization as soon as possible so that they may help another person obtain hospitalization without signing away his worldly goods or resorting to charity. The Glendale Hospital Auxiliary has been a heart-warming civic enterprise; it is a plan which your community, too, may want to adopt.

Yes, Mothers, TUFFY-KAPS guard nipples against germs, odors or other impurities while bottles are stored. They slip on or off in a jiffy, can be sterilized with bottles, and they're *guaranteed forever against thermal breakage*. Buy at 2 for only 15c, in handy packages of six.

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You can't buy better nursing bottles than TUFFYS. They're 2 for only 25c, so why pay more? Made of heat-resistant glass, *guaranteed forever against thermal breakage*, TUFFYS are the choice of thrifty Mothers, everywhere. They're easy for baby to hold, scientifically shaped for correct feeding, and simple to clean. TUFFYS and TUFFY-KAPS provide the perfect nursing bottle combination. Set of six TUFFYS and KAPS, only $1.20 at drug and department stores.

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YOU CAN'T SAY THAT AGAIN!

By RUTH PECK McLEOD

Present nutrition knowledge makes it necessary for us to discard some old ideas about foods and home economics

"A TOUGH cut of meat when cooked until tender is just as nutritious as a rare chop" is one of the many statements we have had to take back due to recent research. While the mineral content of a fibrous piece of meat will survive long cooking, the fragile vitamins (particularly B_1) will not. However, we are not to conclude that we should buy only the more expensive chops and steaks but rather that we should take into consideration this loss of vitamins and plan to serve some other source of them when we have a chuck or rump roast.

Similarly, we used to consider it sheer extravagance to pay more for the young, tender tips of green asparagus, or the tiny, green butterbeans, or the first new peas, when the more mature peas and beans were said to contain more "food value"—calculated in terms of calories instead of in vitamins and other nutrients as well. It is true that the more mature vegetables contain more starch, but we can get carbohydrate from our less expensive cereals. We now know that it is the freshest vegetables in which the most vitamins are found; particularly, this applies to vitamins B_2 and C. The gradual drying up of the seeds and green leaves greatly decreases vitamin content. Grazing cattle select the short, tender, young shoots of grass in preference to the long, tough, mature blades. The animals know instinctively that the former is better food.

The idea that parsley was to be used solely for decorative purposes has been abandoned; we know now that it is an abundant source of vitamin A and also contains considerable vitamins C and B_2 and some B_1. Social etiquet now decrees that it is proper to eat the parsley garnish on your plate, and health specialists suggest that more than a single sprig be served. Practically all who have a garden at the present time grow generous amounts of it. Even some apartment dwellers raise parsley in their window sills.

The health clown of some years ago who entertained and instructed juvenile audiences condemned green peppers by the dramatic gesture of tossing them into his trash basket; however, since then they have been recognized as a splendid source of vitamins A and C. They also contain an appreciable amount of B_2 (riboflavin) and some B_1 (thiamine). While some people feel that they cannot digest peppers readily, often it is the cooked pepper which causes the trouble. The raw one is usually more acceptable to the delicate digestive tract.

Formerly a great deal of sympathy was expressed about the bowed legs of the neglected children of the poor. The explanation usually was that this abnormality came about because the youngsters walked too soon. As a matter of fact, such skeletal deformities are due to lack of calcium and phosphorus-rich foods, such as milk, as well as lack of sunshine (or vitamin D). The poverty stricken child frequently has enough sunlight but not the proper food. On the other hand the youngster of well to do parents has had plenty of milk but often has been kept indoors too much and has not had valuable vitamin D. Unless the latter youngster gets sunshine, or the necessary amount of fish liver oils, he may become as knock-kneed or bow-legged as the children of indigent families who have no milk. Not only juveniles but adults as well are affected by lack of sunshine. The aged grandmother who is confined to her room and gets only sunlight coming through a pane of ordinary window glass is robbed of her supply of ultraviolet rays, and no matter how much milk she consumes she still suffers from a calcium and phosphorus deficiency which may cause the aches and pains commonly called "rheumatism." Some women of the Orient who because of their social status are kept indoors constantly suffer such deformities of the skeletal structure that they cannot stand alone.

Many of the older generation who formerly ridiculed the idea of sun suits for children and backless bathing suits for adults are now realizing that there is a definite relationship between mode of dress and nutrition, that unless the system gets a certain amount of sunshine the body cannot be properly nourished. The lily white necks and alabaster arms of the gay nineties usually made for rachitic bodies. Fortunately, it is recognized now that with plenty of milk and sunshine, rickets can almost always be stamped out.

Some time ago our desire for

Whenever..Wherever TEETH ARE BRUSHED

Medical and dental authorities emphasize the importance of using a toothbrush of the right size and shape to fit your individual needs. Dr. West's Miracle-Tuft Oro is a preferred toothbrush for two reasons:

1. It gives you the preferential brush properly designed by leading periodontists.

2. It is bristled with long wearing *"Exton"* . . . the finest of bristling filaments, and is properly trimmed for scientific tooth cleansing and polishing.

Weco Products Company
20 North Wacker Drive, Chicago

HICKORY Perma-lift
U. S. PAT. NO. 2,258,277
BRASSIERES
"THE LIFT THAT NEVER LETS YOU DOWN"

EXCLUSIVE • EXCITING • EXQUISITE

Whether you wish to regain or maintain a smart, youthful bust line, PERMA☆ LIFT flatters the flat and firm alike. The miracle happens at the base of the bra-cups, where a secretly processed cushion inset softly but firmly supports your bosom, holds a rounded contour, never becomes limp or lax through constant washing and wear. Brassiere and Bandeau styles, $1.25 to $2.50. Long-Line models, $2 and $2.50.

THIS TOMATO JUICE IS NEVER THIN OR WATERY

High retention of nutritional values because made by patented process. The Sun-Rayed Co., Frankfort, Indiana.

WHITE STAR TUNA FISH
Chicken of the Sea
FANCY TUNA
America's Favorites

From FRUIT at its sun-ripe best
D. Phillips
PURE CITRUS JUICES
Grapefruit; Orange; Blended Orange and Grapefruit provide Vitamins A and B with an abundance of
VITAMIN C plus DEXTROSE
Food-Energy Sugar
D. Phillips GRAPEFRUIT JUICE
DR. P. PHILLIPS CANNING CO., ORLANDO, FLA.

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Twenty-five years ago the public regarded commercially canned goods rather skeptically. At that time the favorite story of a well known agriculturist who was stressing the use of fresh fruits and vegetables raised in the family garden was that a certain family had starved to death because they lost the can opener! Such an exploitation of fresh foods was current then that we did not realize the splendid use that could be made of commercially canned products. While we still recommend the generous use of fresh foods in season, the canning industry is to be commended for perfecting the preservation process so thoroughly that there is little loss of vitamins in their products. We can recall seeing tubs of peeled peaches, dishpans of seeded cherries and quantities of cooked tomatoes left standing for hours in a hot kitchen, the canning process delayed while the housewife prepared a meal or performed some other necessary task. The advice given today for canning is to have the least possible time elapse between the gathering of the product and the sealing of the container. It is wiser to run a few cans through at a time than to let peeled and cut up fruits and vegetables stand exposed to the air. Another revision of canning rules recommends that fruit and vegetables never be sieved while hot. Not long ago, too, it was thought to be risky to let a canned product stand in the opened tin, but we know now that canned milk and other products are refrigerated right in the can.

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taste from game, but an onion cooked with it will accomplish the same purpose and its presence will not be detected in the final flavor of the dish.

While ordinary granulated sugar containing no mineral was formerly considered the only appropriate sweet for the sugar bowl, many now prefer brown sugar; it has not been refined to remove the molasses which contains the valuable mineral. Because so many women have mastered the principles of nutrition, the homely molasses has at last been recognized; it is one of our richest sources of iron. Since the sugar shortage, many people have been surprised to find that they can digest such substitutes as sugar cane syrup, sorghum, honey and maple syrup with perfect ease.

In making preserves and jellies, the old rule of "cup for cup" has been abandoned—with excellent results so far as flavor, nutritive value and digestibility are concerned. Fruits preserved with the minimum amount of sugar have the maximum amount of minerals and vitamins. One of the principal reasons for conserving fruit is its vitamin C content, but we defeat our purpose when we add so much sugar that the percentage of vitamin C becomes low. With recent sugar saving recipes we do not have to ask what kind of preserves we are eating, for the genuine fruit flavor has been preserved.

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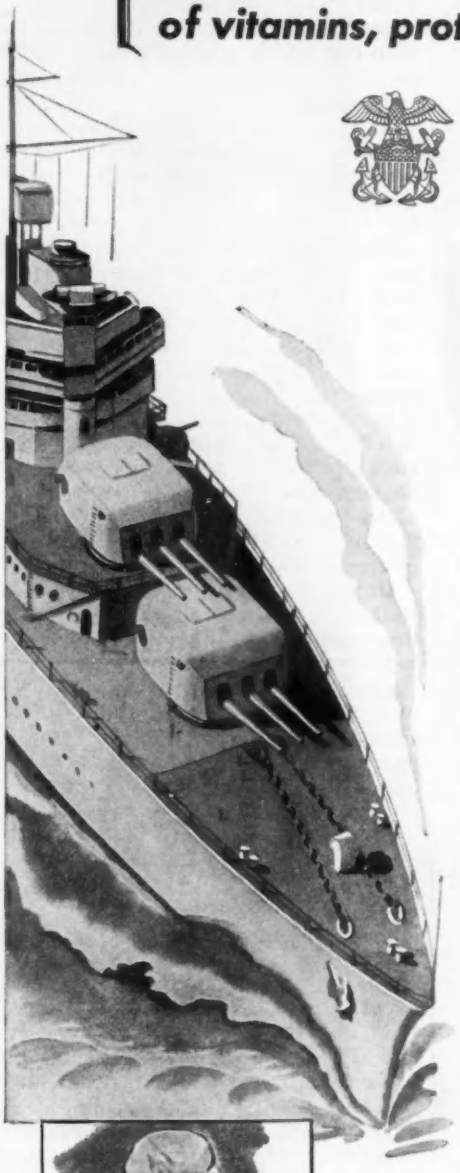
America's favorite dairy food—Ice Cream—is an important source of vitamins, proteins and minerals



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NATIONAL DAIRY C[illegible]
CHICAG[illegible]

FOOD [illegible]
SERVING OF[illegible]

CALORIES	PROTEIN Gm.	CALCIUM Gm.	VITA[illegible]
200	3.9	0.131	

★ EXCLUSIVE • EXCITING • EXQUISITE

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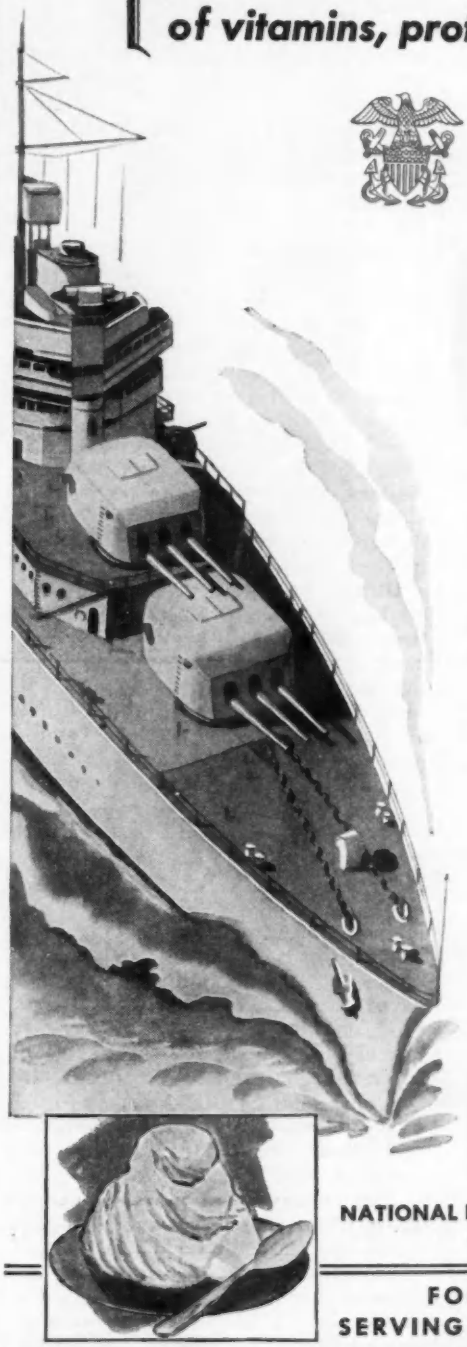

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Ice Cream Is a Fighting Food

Ice cream is a favorite with all branches of our armed forces—and it is important that they get this valuable food. So, if you aren't always able to get all the ice cream you want—remember, you're "sharing" this nutritious food with our fighters.

NATIONAL DAIRY COUNCIL, 111 N. CANAL ST. CHICAGO 6, ILLINOIS

FOOD VALUE OF ONE SERVING OF VANILLA ICE CREAM

CALORIES	PROTEIN Gm.	CALCIUM Gm.	VITAMIN A I.U.	THIAMIN Mg.	RIBOFLAVIN Mg.
200	3.9	0.131	339	0.038	0.105

A table treat from old NEW ORLEANS

...Brer Rabbit
GOLD LABEL
Molasses

The luscious old-plantation flavor of Louisiana sugar cane—sweet and mild for table use. That's what you get in Brer Rabbit *Gold Label* Molasses.

This fancy, light-colored New Orleans molasses is delicious on pancakes . . . on cereal . . . as a spread for bread.

Try this sweet, mild table molasses—in the Brer Rabbit bottle with gold-colored label. If you wish a dark, full-flavored type for cooking, try Brer Rabbit *Green Label* Molasses.

A new drink! **Add one tablespoonful of Brer Rabbit *Gold Label* Molasses to a glass of cold or warm milk.**

FREE! Penick & Ford, Ltd., Inc., New Orleans, La., Dept. H3-4. Send me—free—Brer Rabbit's "Modern Recipes for Modern Living," containing 116 fine recipes for using either *Gold Label* or *Green Label* Brer Rabbit Molasses.

Name_____
(PRINT NAME AND ADDRESS)

Address_____

allowable along with a small pat of butter. Some milk is absolutely essential to supply the necessary calcium and phosphorus. Cottage cheese is another good source of these minerals for use in a low calorie diet. Whey left from cottage cheese was thrown away when it was thought to be of little food value; now it is known that practically all the riboflavin found in skimmed milk is drained off in this liquid. If you make your own cheese, save the whey, combine it with fruit juice to give it flavor and use it as a palatable, nutritious beverage.

Another practice which was condemned in the past was eating vegetables which were supposedly "half cooked." Yet modern recipes call for the briefest possible cooking period, to preserve as many vitamins as possible. Still, many old fashioned cooks boil beans until they fall to pieces or cook cabbage until it is red; such methods represent the wholesale slaughter of vitamins. It is always advisable to eat as many foods raw as you can, provided they are palatable and that your digestive tract is normal. Modern cafeterias astonish people of the old school by serving cauliflower, carrots, spinach and turnips in the raw state.

During the era of the fireless cooker, no cereal was considered thoroughly cooked unless it was kept in that so-called labor saver overnight. Luckily, fresh fruits were served in combination with such dishes, or possibly we should never have survived without succumbing to scurvy or some of the other vitamin deficiency diseases.

Another great enemy of the vitamins was the "warmer" on the old fashioned cook stove. When various members of a large family ate at irregular intervals, the food was left in this warmer, or on the back of the stove, for hours at a time. Now the progressive housewife lets food cool rapidly, then reheats it quickly. The same principle applies to cooked food left over; it should be chilled as soon as possible, covered and put into the refrigerator, then reheated in the shortest possible time the next day.

The housewife of a few decades ago seldom served yellow corn because she thought the white looked so much better! In the light of present day knowledge, she is willing to pay a higher price for the golden variety. Years ago, too, farmers insisted that stock thrived better on yellow corn, but scientists scoffed at the idea until it was discovered that only the yellow corn contained carotene—from which the body manufactures vitamin A.

Some people are still prejudiced against oleomargarine. Home economists insisted that it should not be substituted for butter—until scientists discovered that it could be fortified with vitamin A to make it compare favorably in composition with butter as far as that vitamin is concerned. Margarine is a great boon to us now in wartime because it saves butter, dollars and points.

The public used to think that only white flour was acceptable; some still have that impression. Many more, however, are completely converted to the idea of using only whole wheat flour or white flour enriched with thiamine, niacin and iron.

Another culinary wrinkle of the past consisted of keeping food uncovered while cooking, so that the steam would not bleach it and so the odors would be dissipated quickly. Present instructions, however, tell us to keep the lid on the pot to prevent the vitamins from being destroyed by oxidation. For the same reason, as little stirring as possible is suggested.

Years ago, home economists recited the "five food principles," carbohydrates, fats, proteins, mineral and water, as all that were necessary to maintain optimum health. However, scientists have found that in addition to those we must have the vital material called vitamins. We now know that a person eating 5,000 calories a day could succumb to any one of the deficiency diseases caused by an inadequate diet. Some victims of pellagra are heavy eaters but consume only cornbread, fat back and molasses. One scientist has cautioned us to be careful of "the company our calories keep!" Some women on reducing diets have felt that so long as they ate 1,200 calories a day they would be adequately nourished, but they were not taking into account the fact that the necessary protein and fat and particularly the minerals and vitamins had to be "squeezed" into those few calories. Some scientists have summed up the situation by saying that there should be "no calories without vitamins and minerals." Those living on reducing diets which ignored such advice have succumbed to such diseases as anemia, pellagra, mild forms of beriberi, or even a combination of those. We know today that you can't cheat nature—you have to pay if you disobey her laws for adequate nutrition. Undoubtedly in a few more years we shall have to take back some of the statements we are making now, for science is making tremendous forward strides in various nutritional experiments.

HIS FIRST STEPS . . .

Bottle days are over and baby enters a new and critical phase of development.

Bone and muscle growth are stepped up. Energy output and nutritional needs increase.

Horlick's meets these increased nutritional requirements—It is pleasant to take, easily digested, readily assimilated.

It contains:

Protein for muscle and tissue building.

Carbohydrate for caloric value and energy.

Readily digested fat, from full cream milk.

Calcium and phosphorus for sound bones and teeth.

Prepared with milk or *with water.*

Use
HORLICK'S

The *Complete* Malted Milk—Not Just a Flavoring for Milk

HORLICK'S

Pharmacy and Chemistry

(Continued from page 179)

cerns often copy remedies which have been evolved by the larger laboratories and call them by different names. Most of the products distributed by manufacturers of this type are not presented to the council because it is realized that they will not be accepted. The firms succeed in selling their wares, however, by advertising in newspapers and magazines and in "throw-away" medical journals. Those who fall for this publicity, for the most part, do not scrutinize too carefully the scientific basis for the efficacy which is claimed for the pharmaceutical preparations.

The methods which the council uses to investigate this huge volume of pharmaceutical products are of interest. The council is now composed of eighteen distinguished scientists who represent the various branches of medicine as well as the fundamental sciences which are involved in medical practice. Members of the council usually serve for many years and do not receive any compensation. When a new pharmaceutical product is sent in to the council for its approval it must be accompanied, as has been said, by adequate information from the producer concerning its contents. It is then subjected to thorough chemical investigation in the laboratories of the council at the headquarters of the American Medical Association. These data are then sent to one or more members of the council who are particularly interested in the field involved. Investigation of the product may include careful therapeutic tests on animals and, if the substance is proved to be harmless, it may be given to selected patients. All investigative data and therapeutic results are assembled and filed with the secretary of the council, Dr. Austin Smith, and are then printed in a bimonthly bulletin which is sent to the members of the council.

As an example, when salvarsan was first submitted to the council for acceptance, much pressure was brought to bear on its members to have them hurry their investigations and give the product immediate recognition. However, the members of the council in charge of the investigation found evidence of the toxicity of this drug under certain circumstances and also found that the claims made for the product gave the impression that salvarsan had been established as a sure cure for syphilis. In spite of much criticism, the council continued its investigations and produced evidence clearly refuting some of the original claims made for the drug. Many other pharmaceutical products, when subjected to careful investigation, have been found to contain harmful ingredients, and some products have been found to contain ingredients which were inert and devoid of therapeutic value.

The results of investigations made by the council are published annually in a book called "New and Nonofficial Remedies." This book contains a description of proprietary articles which have been accepted as conforming to the rules of the council, of such simple, nonproprietary, nonofficial substances as seem of sufficient importance to warrant their inclusion, and of simple pharmaceutical preparations which are believed to be useful. The term "nonofficial" refers to products not listed in the "United States Pharmacopeia" or the "National Formulary." For data concerning them to be published in "New and Nonofficial Remedies," proprietary and pharmaceutical mixtures must comply with the rules. In the volume are included only those mixtures which present some real advantages. The term "proprietary article" refers to any chemical product or similar preparation used in the treatment of disease which is protected against free competition by any means. The council wishes to have it understood that the admission of an article does not imply its recommendation. Acceptance simply means that no conflict with the rules has been found by the council and that the product has been shown to have value as a therapeutic agent.

It is also the function of the council to help protect the public against fraud, undesirable secrecy and objectionable advertising in connection with proprietary medicinal articles. As has been said, the object of the council is primarily to advise the medical profession concerning the status of medicinal articles, to publish reports on claimed advances and to elaborate standards for control and identity of products introduced into materia medica. The council has been of great assistance to the federal bureau which has charge of carrying out the provisions of the federal Food and Drug Act. The efforts of these bodies are exerted to control the irresponsible claims which appear often in advertisements to the public. Such advertisements are dangerous to public health because by description of symptoms they suggest to the minds of the people that they are suffering from the many diseases described, because they often stimulate the innocent formation of a drug habit, and because they promote the evils of harmful self medication.

The council also publishes reports and books, sponsors research projects, answers inquiries for physicians, the public and members of the armed forces and undertakes numerous other activities looking toward the protection and welfare of the public.

"It seems her husband discovered Doc was a plastic surgeon back home!"

What Constitutes a GOOD Breakfast?

To the nutritionist, a GOOD breakfast is one which is "nutritionally adequate," which fortifies the body—after the long fast of the night—with the nourishment needed for energy, for mental alertness, for a pleasant, happy attitude toward work and the world at large.

Medical authorities and nutritional science both recommend that breakfast be from ¼ to ⅓ of the day's total food for better nutritional health, for greater stamina, for better efficiency.

As a basic or minimum breakfast pattern, fruit, cereal, milk, bread, and butter are recommended. When more is required, this basic morning meal is easily rounded out by the addition of eggs, of breakfast meats, and of other suitable foods.

The dish of cereal suggested deserves this inclusion in every breakfast because of the notable contribution it makes to good nutrition. When 1 oz. of cereal (whole-grain, enriched, or restored to whole-grain values of thiamine, niacin, and iron) is eaten with 4 oz. of milk and 1 teaspoonful of sugar, this highly palatable dish provides proteins of excellent quality, readily utilized carbohydrate, easily digested fat, and notable amounts of the important B-vitamins, iron, and calcium.

The presence of this seal indicates that all nutritional statements in this advertisement have been found acceptable by the Council on Foods and Nutrition of the American Medical Association.

CEREAL INSTITUTE, INC.
135 SOUTH LA SALLE STREET · CHICAGO 3

Lice—The Ancient Enemy of Man

(*Continued from page 177*)

with its saliva in the broken skin of the new victim. It is a matter of historical fact that lice have so affected the strength of armies as to decide the outcome of battles and even wars.

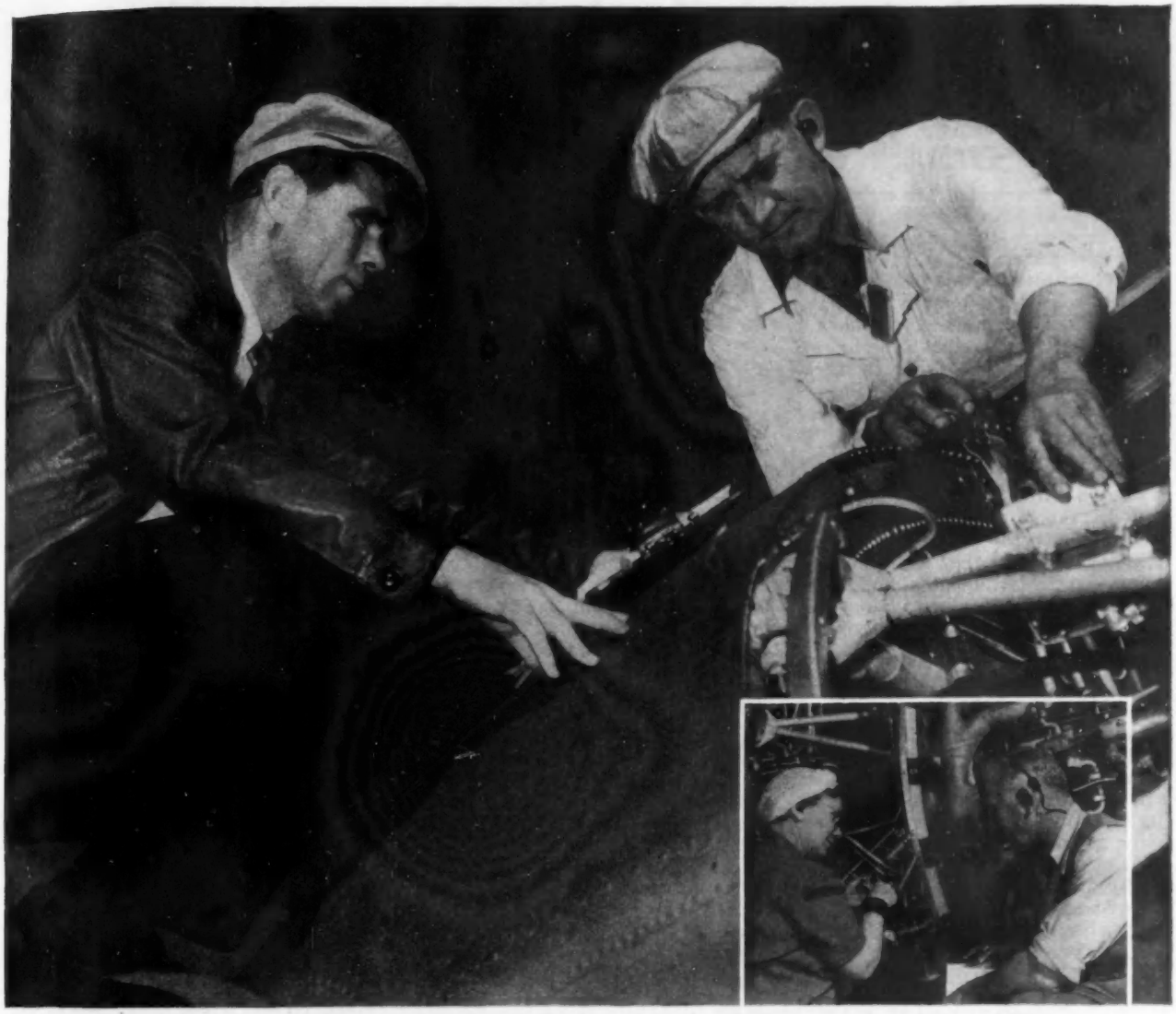
Doctors, nurses and hospital attendants caring for patients infested with lice are often bitten and may acquire disease in this way. Thus modern medicine requires that medical personnel in louse-infested districts take every possible precaution. Usually, they dress in clothing resistant to infestation, so arranged that lice may not crawl underneath it. Frequent changes of clothing are mandatory, and routines are devised which make it impossible for hospital patients to come in contact with the attendant's fresh garments. Moreover, infested clothing can easily be made safe again, since lice die when exposed to a temperature of 140 F. In order to study louse-borne diseases, scientists in the past have placed lice in boxes and bound them to their bodies in such a way that the lice could feed and reproduce under close observation. By such dangerous exposures, knowledge has been acquired which has saved millions of lives. Widespread epidemics caused by lice are largely a thing of the past; in their stead, we now have carefully planned public health programs and preventive methods to protect the public from lice and lice-borne diseases. Today, thanks to methods perfected by the Army and Navy medical departments, lice do not seriously interfere with the efficiency or well-being of our fighting men in the field.

The most important feature of any program to control the spread of lice is cleanliness. Frequent bathing, shampoos and changes of clothing are essential. One should carefully avoid the use of combs or head-dress belonging to others and also avoid contact with soiled surfaces in public toilets. When, in spite of these precautions, the hair becomes infested with lice, the hair should be treated with a mixture of equal parts of kerosene and oil. The head should be covered with a towel and the mixture allowed to remain in the hair for several hours—overnight, if possible. Then the scalp and hair should be thoroughly shampooed with soap and water. Louse eggs, or nits, may sometimes be removed with a fine-tooth comb, but if this is not successful, the hair should be cut off. All brushes and combs must be washed in kerosene, and head-dress should be exposed for several hours to dry heat. Care should be taken that all members of the family living in the same household have the entire treatment when one member is known to have lice.

When body lice are found, clothing should be boiled or exposed to dry heat at 140 F. Particularly, all seams and rough spots in the clothing should be cleaned; pressing these with a hot iron is an effective way of making certain that all insects are destroyed. The victim should bathe thoroughly, using plenty of soap and rubbing hairy surfaces with a kerosene mixture. Pubic or crab lice are especially difficult to remove; the best method is to shave the affected surface of all hair and treat it with a mercurial ointment. However, this should be done only with the advice of a physician, since repeated use of such preparations may have a harmful result. Finally, it should be remembered that while it is no disgrace to have lice, since infestation sometimes occurs in spite of cleanliness and all other efforts, it *is* a disgrace to *keep* lice!

IT'S ALL MIXED AND READY TO SWALLOW

Cartoon by Jay N. Darling—reprinted with permission from Des Moines *Register and Tribune*



THESE two photographs, taken in one of the Douglas Aircraft plants in Southern California, offer a concrete example of how better hearing saves vital, often irreplaceable experience for America's war effort. Here, for example, is Mr. Ben. S. J...* (*above, right*), a final inspector on Douglas aircraft engines. He was in the last war . . . aviation mechanic at Rothwell Field. A few years ago his hearing failed, but thanks to his Sonotone, his 25 years' experience as a fine mechanic is still on the job, still helping get those much needed bombers into the skies over Europe.

And so, too, with the other man in the picture, Mr. Frank P...*. He's assistant supervisor on the C-47 flight line. He watches over the pre-oiling and running in of the engines, the readying of the planes for trial flights, often going up with the test pilots. Without his Sonotone, he was never sure of what was said to him . . . with it he can hear even over the motor's roar on a test flight. And in the picture at the right, Mrs. Magdalena G. N...*, a patriotic mother with a son in the Navy, and Mr. William A. K...*, who shut up his garage to go into war work, are two more examples of eager, patriotic hands and minds that Sonotone has freed to fight for freedom.

These Douglas Aircraft workers are typical of what is going on all over the United States. More and more people are coming to realize that it isn't the loss of your hearing, but the *neglect* of that loss of hearing that *really* hurts your efficiency. The more realistic and humanly understanding labor policies of great industrial leaders like Douglas Aircraft Company have done much to upset the old prejudice against hearing aids. America's wartime employers realize that with a properly fitted hearing aid, a man may be as good as ever at his job.

A very high percentage of people's hearing deficiencies can be helped by a properly fitted hearing aid. And when a man goes into a Sonotone office, has his hearing tested (*there is no charge for this*), and gets one of the new Sonotones *individualized* to his particular hearing needs, he can be sure he's getting the closest approach to natural hearing present-day science can give him . . . and that he is getting the 24-hour-a-day service of the most experienced hearing aid organization in the world.

**Name omitted in accordance with medical principles*

For information on SONOTONE telephone or write any of the 145 Sonotone offices in the United States, or write Sonotone, Elmsford, N. Y. (*In Canada, address 229 Yonge Street, Toronto. In England, write 144 Wigmore Street, London, W. I.*)

Accepted by the Council of Physical Therapy of American Medical Association

Aviation Medicine

(Continued from page 193)

clude hindsight. Unlike the three monkeys, the airman must see everything, hear everything, think everything.

Once he is selected through these sifting processes, which have been developed to a high degree in the past two years, his training must equip him to use well what he has. He must learn, primarily, to have faith in his instruments. It takes a vast amount of education before flyers have perfect faith in their instruments, realize that instruments and instruments alone are the things to rely on in flying. Here, too, aviation medicine plays its part. A flyer's sensations are always a little bit behind actuality and in many instances are even completely wrong as regards his orientation in space. The instruments are right. Man's body has not the ability to realize changes as fast as the instruments in the machine he pilots. Among the technics the flyers learn is proper use of equipment. We instruct them in the use of oxygen equipment. This is another high point in aviation medicine. Through the years in which medical men and engineers, working together, have been studying the effect of flight on the human body, a great many devices have been perfected to protect men from bodily harm inflicted both by the enemy and by nature itself. The new oxygen system, developed within the last year, is an example of the effort to remove all possible chance for human failure. The old type oxygen equipment was manually controlled. The airman adjusted the amount of oxygen he needed by turning a knob and adjusting his regulator to the altitude at which he was flying. If he forgot, or made a mistake, he might lose consciousness before he could correct the setting. But the new oxygen equipment is automatic, doing mechanically what the flyer formerly did manually, increasing or decreasing the flow of oxygen as the altitude changes without any help from the airman himself. All flying personnel are trained to use oxygen on flights over 10,000 feet. Once a man has the new type mask on, he will receive the amount of oxygen needed to keep him functioning as if he were almost at sea level. Night flyers use oxygen from the ground up, since we have found that breathing oxygen, even before you reach 10,000 feet altitude, improves night vision. The new equipment also virtually eliminates the danger of ice forming in the masks, since it is designed to protect the valves which, in the old masks, sometimes froze at high altitudes.

The man who goes on a bombing mission carries along much more equipment on his person than most people realize. Besides his oxygen mask he has an electrically heated suit to protect him from the great cold of the stratosphere; over this is a flak suit, consisting of light weight armor for chest, back, abdomen and head; heavy, warm gloves to keep his fingers agile; a new kind of safety harness which has replaced the old seat belt and is adjusted from his shoulders to the back of the seat so that, in a crash, he is prevented from hitting his head against the instrument board. He has earphones on his ears, shutting out all extraneous noises, and a microphone before his lips so he can keep in touch with others in his mission. He has a parachute and a first aid parachute pack, with which he can take care of himself, if necessary, when he has reached the earth or the sea. Over the jungles this parachute pack contains quinine and mosquito netting, among the other first aid necessities. In the Arctic, there are articles appropriate for survival in that climate.

There are being developed devices which will minimize even the effect of sudden changes in direction or velocity which result in the familiar "blackouts" or "grayouts" noted in such maneuvers as the pull out after a dive of high velocity, or the sudden change of direction encountered in aerial combat. Contrary to popular opinion, it is not the speed at which a man travels which affects his circulatory system, as long as he travels in a longitudinal direction. But a sudden change of direction has a definite effect. When a plane dives suddenly and fast, the blood rushes from the flyer's feet toward his head and frequently causes a temporary loss of consciousness. This is the "redout." There is also a "blackout," experienced when a plane makes a sudden rise and the blood rushes temporarily and swiftly toward the feet. In its milder form this is called "grayout." Changes in pilot position and posture, and other means, aim to increase the tolerance of the air crew to these maneuvers.

Men are taught how to use their eyes, by learning that at night they can see better out of the periphery of the eye—from the side, so to speak—than by looking directly at an object. They receive goggles to help them see when searchlights are turned full on them. Other lenses are provided for sunlight, for seeing through haze and for watching tracer bullets.

All these results of selection, improvement of training and mechanical equipment serve to prevent a tremendous amount of occupational disease among flyers. But pilot fatigue is one of our strange imponderables. It is the result of the strain of flying in the stratosphere, where a man needs special equipment even to venture, of limited physical activity in a fighter or

AMERICAN RED CROSS WAR FUND

The month of March has been designated by President Roosevelt as "Red Cross Month"—during which gifts and contributions are to be made to finance the world-wide activities of the American Red Cross in wartime. "The 1944 War Fund must be of unprecedented size," states the headquarters office in Washington, "to meet unprecedented needs. Your contribution will help assure maintenance of all Red Cross services."

Among the many essential services supported by the Red Cross War Fund are the blood donor program—it is estimated that 5,000,000 blood donations must be given in 1944 to protect the lives of fighting men; nurse's aide and first aid training; student nurse recruitment; field service in foreign theaters of war; communication with prisoners of war all over the world; canteen and recreation centers for American soldiers, sailors and marines; distribution of food and other supplies to war prisoners; and other projects directly affecting the welfare and morale of the armed forces. In addition, the Red Cross must continue its disaster relief, rehabilitation and other home services.

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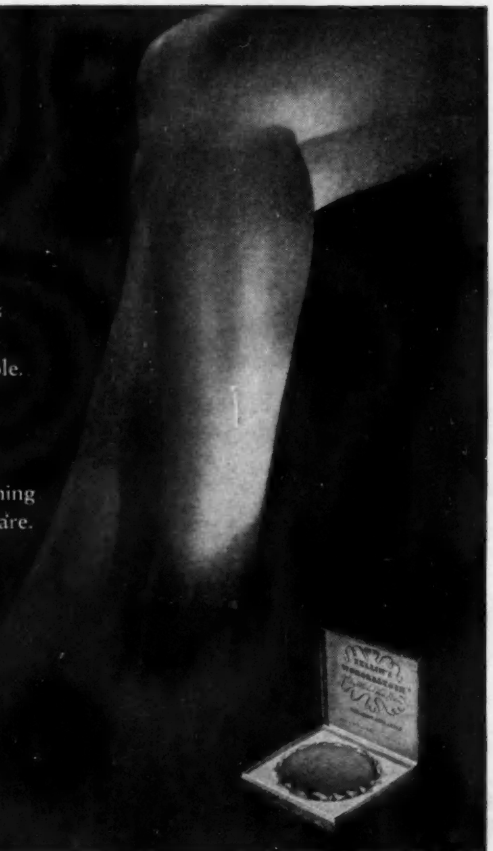

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bomber, of tension, which is inescapable in the nature of an airman's work, and of suppressed fear, which I believe any flyer will admit—at least when he first takes to the upper air. It is fear of the unknown, rather than fear of the enemy—fear of not performing at his best, even though he is trained and ready. It is a perfectly human and normal thing—but it takes its toll in strain. Pilot fatigue is the result of all these things. Its onset is insidious, its symptoms vague and the laboratory findings apparently negative. We do everything in our power to apply the only cure—a separation of the victim from the environment which has caused its onset.

Certain standards have been set in some theaters of war. Men in the United Kingdom theater are sent to rest after they have been on a specified number of missions. Some need the rest before this number is completed, some later. In different theaters of war, the standards vary. In North Africa, for example, or in the South Pacific, where missions of one or two hours in length are more common, men take forty, fifty or sixty missions before showing signs of pilot fatigue. It is the flight surgeon's job to watch his men individually, to watch for the time when they don't sleep well, are irritable, are hard to get along with or don't eat well. Depending on circumstances, a man is sent periodically to a rest camp for a week or ten days or given a furlough and allowed to go to a nearby city for relaxation and amusement. Under this system, the number of actual physical breakdowns which have occurred is surprisingly small. First, we have picked men who can "take it." Second, we watch them to see how well they can take it. And third, we rest them before they have tried to take it too long. Occasionally there are psychoneurotic cases, of course, but the percentage is low, and of those which have occurred so far, 75 per cent have been sent back to active duty, after brief periods of treatment.

Another condition incident to flying is aero-embolism—similar to the "bends" that divers get. Bubbles form in the blood stream as a result of extremely high altitude, causing severe pain. Even though it creates no after-effect, we have to know beforehand which men are subject to aero-embolism, for they are the men who should not be sent into the stratosphere. They cannot function when in the throes of such pain. We find out about these men by testing them in low pressure chambers on the ground. This testing is accomplished only for special, high altitude personnel. A

second, and much more important, use of low pressure chambers is in the instruction of flying personnel in the use of oxygen equipment and other measures which are in reality a "design for living" in the air. More than fifty thousand air crew members a month are subjected to altitudes of from 18,000 to 38,000 feet in order to learn the necessity for rigid oxygen discipline for survival and for successful completion of missions flown at altitudes of more than 10,000 feet.

All these things, and many more, have postwar value. Much of the knowledge now classified as confidential or secret is directly applicable to future commercial aviation and will one day become commonplace. The future, as every one now concedes, is to be an air age. It will present its problems as well as its benefits. The average family doctor will have to know about the diseases of every part of the world, for no spot on the earth's surface will be more than six days away. The flight surgeon is the forerunner of the family doctor of the future. He has to know global medicine—strange, tropical diseases which might occur in New York or London after a flight from Marakeesch, Africa. And, since people will be flying around the world, we shall have to equip passengers with safety devices to guard them from difficulties of altitude and changes of altitude at high speed—but it won't be guarding each passenger in the paraphernalia we now give our flying soldiers. Pressurized cabins supplied with oxygen will be used for postwar civilian stratospheric flying. Physicians will examine passengers before they go on flights, so that those with colds or throat infections can be advised to stay home and avoid possible diseases of the stratosphere which are contracted only when previous infection exists. A disease known as "aero-otitis," an ear inflammation, is being prevented to a large degree today by examination of our flying men before they take off on missions. So it will be in the future air age.

I envisage the day when civilian air ambulances will streak through the air—or helicopters will take doctors to the bedside of their patients or patients to the hospital. I believe the time is coming when, through aviation medicine, human beings will be as well equipped to fly in the stratosphere as are their airplanes at the present time. This vast war which we are slowly but surely winning shows signs of producing not only blood and sweat and tears but new benefits for mankind, both in flight and on the ground.

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Lovely to look at. . . . Every woman wants to be that. A lovely appearance gives lift to your spirits, sparkle to your personality. Perhaps you feel and look a touch on the drab side. That's when you should muster your charm and go all-out for loveliness. Perhaps in the hustle and bustle of war-time activities you've been neglecting yourself. Perhaps you have become apathetic to the way you look, confusing sensible cosmetic care with vanity and feeling, quite rightly, that there is no room for idle vanity in the world of today. If so, you are doing yourself and those with whom you associate a disfavour; for now, as never before, you must look fresh and alert and cheerful. When you look refreshed you feel refreshed and you are refreshing. . . . So, this Spring why not plan to do justice to your appearance: see to it that you are bright and colourful and gay. You cannot afford not to devote fifteen minutes a day to proper cosmetic care. And, to our way of thinking, proper cosmetic care simply means knowing how to get the best results from beauty aids that are suited to your particular needs. Luzier's Fine Cosmetics and Perfumes are accepted for advertising in publications of the American Medical Association. They are made available to you by cosmetic consultants who assist you with the selection of suitable Luzier beauty aids and show you how to apply them to achieve the best results, the loveliest cosmetic effect. A card addressed to us will put you in touch with the local distributor of our products.

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QUESTIONS AND ANSWERS

Otosclerosis

To the Editor:—This is a case of otosclerosis. It started thirty years ago. The hearing loss was slow but sure. Treatment by specialists was taken now and then until 1932. From then until 1938 every hope of a new treatment was taken. Much needed money was spent on these. The hearing was failing rapidly.

In 1938 the "open window" operation was performed. Between then and 1941, four operations were performed. Good, practical, usable hearing is now enjoyed. The hearing loss in one ear is now about 22, and in the other 30 decibels.

(1) Is there any other known and approved method for further improvement in hearing? Where can this treatment be obtained?

(2) Is there any danger of the results gained from these operations fading with the years?

(3) Can you recommend any other treatment for otosclerosis?

(4) Is a victim of otosclerosis doomed to deafness with the passing of the years? New York.

Answer.—Except for the fenestration ("window") operation there is no known medical or surgical treatment which can improve the hearing in otosclerosis. If you have had this operation with a lasting hearing improvement, further surgical intervention would be as likely to destroy the hearing as to result in any further gain and should therefore be avoided.

While sufficient time has not yet elapsed to know for certain the permanence of a hearing improvement after the fenestration operation, five, ten or twenty years afterward, experience thus far has been that a hearing improvement maintained for a year may probably be regarded as permanent. Degeneration of the nerve of hearing occurs in certain cases of otosclerosis. The operation will probably not prevent this. There is no other treatment for otosclerosis except the use of an electrical hearing device and lip reading.

While the tendency in cases of otosclerosis is toward a slowly progressive increase in the hearing defect, in a large proportion of cases the process becomes inactive and remains inactive for many years with no further loss of hearing. It is only in exceptional cases that otosclerosis leads to complete deafness.

Myopia

To the Editor:—Is it possible to distinguish positively between myopia and other conditions, such as muscular spasm, which are sometimes mistaken for myopia? What is a positive test? Is it true that some people, elderly and old, retain sufficient elasticity in the lens to enable them to focus their eyes at 4 to 6 inches and also for long distance? New York.

Answer.—Myopia can be distinguished from other conditions such as muscular spasm simply by putting at rest the muscle that causes such spasm, namely, the ciliary muscle. This is done by the instillation of drops into the eyes and is a routine procedure with eye physicians in the examination for glasses. In many young people the endeavor to overcome farsightedness results in a firm spasm of the ciliary muscle, producing an artificial myopia that can be relaxed only by the use of drops of atropine or homatropine.

When people pass the age of presbyopia (this varies from 43 to 48), the elasticity of the lens diminishes progressively and never returns. Such loss of elasticity means that even though the eye may have perfect vision for distance, it has lost the ability to compensate for things nearby. If the eye is nearsighted in the first place, then the person may be able to read satisfactorily but does not have normal vision for distant objects without the proper glasses. One hears frequently about

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*According to Dr. A. O. Wilensky, in an editorial in the December 1943 issue of "The Review of Gastroenterology," the relative importance of the different protein components is only now becoming understood; proteins enable the body to maintain itself, to repair itself after disease and surgery; they increase the readiness of wounds to heal; protect us against infection by increasing the body's defense forces; they restrain the tendency to store excessive amounts of fat in the organs, especially in the liver; they supply the means of controlling hemorrhage; and—"an abundant, rich protein supply gives a sense of well-being and vigor and does away with fatigue."

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Business Established in 1846

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some older myopic person who can "read the finest print" and still see distant things perfectly. But on examination, it is found that the distant vision is poor and the person is satisfied with indistinct vision for distance, as he has never had clear distant vision.

Age and Race

To the Editor:—Can you tell me whether there is any race in the world which can be truthfully said to show age more quickly than any other? There has been much discussion here on the subject, one group vouching that it is the Finnish race. Which race, if any, would you say was the hardiest of the lot? Oregon.

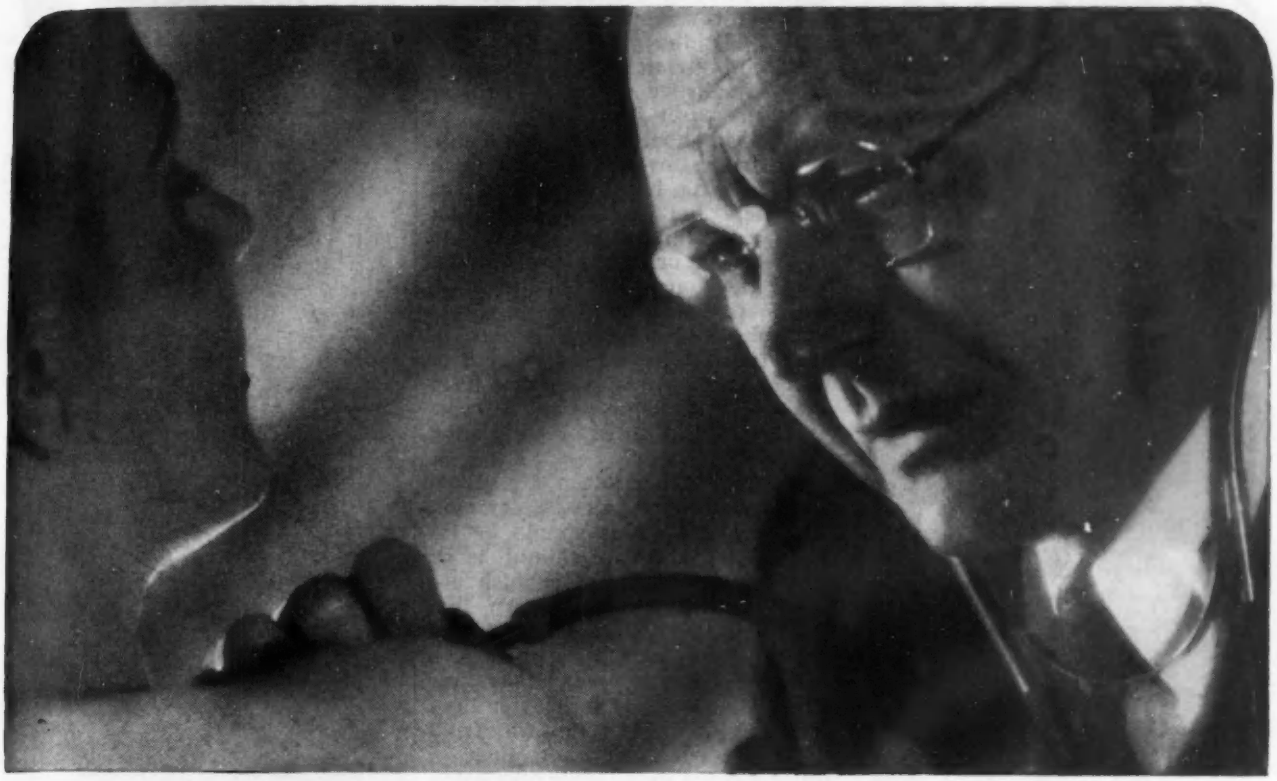
Answer.—Two points need to be cleared up before a satisfactory answer can be given. First, does the question mean *race* in the biologic sense or does it refer to people in some given locality? The Finns are not a race but a mixed population with a Mongoloid background and much Caucasoid mixture. Second, by aging, does the writer mean outward evidences, such as wrinkling of skin, graying of hair and the like, or does he refer to the much more exact and fundamental tests such as the closure of the sutures of the skull and deposits of bone on the caps of the long bones? If the latter is meant, then so far as is known there are no important differences among any existing races or peoples.

Judging by observations of many writers, it appears that the skin (particularly the facial and neck skin) of the Hottentots of South Africa shows excessive wrinkling at an early age and gives the appearance of age. In general, any people who lead an uncertain, nomadic existence in which they are much exposed to the elements *appear* to grow old earlier than those leading a more protected life; also, in general people in the tropics give outward signs of age earlier than do their kinsmen in temperate zones.

No satisfactory answer can be given to the last question. Nearly any primitive tribesman can outlast a hardy American on a difficult hike, yet would succumb quickly to the long continued manual labor which the American could easily endure.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

A FRIEND YOU CAN DEPEND ON



YOUR FAMILY PHYSICIAN

WHEN YOU have a pain and consult your family doctor, you take it for granted he will know all about you, and what ails you too.

Mrs. Evans expects the same when she feels hay fever coming on. And so does Mr. Johnson when he gets one of his attacks of nervous stomach. In between-times, the doctor pulls Johnny Pulaski through the measles, and sends Mary Smith to a famous surgeon for a tumor operation.

In the Middle Ages, a family physician was just that . . . a doctor retained to care for the family of a wealthy patron or ruler. But today he looks after many families, and often a whole community.

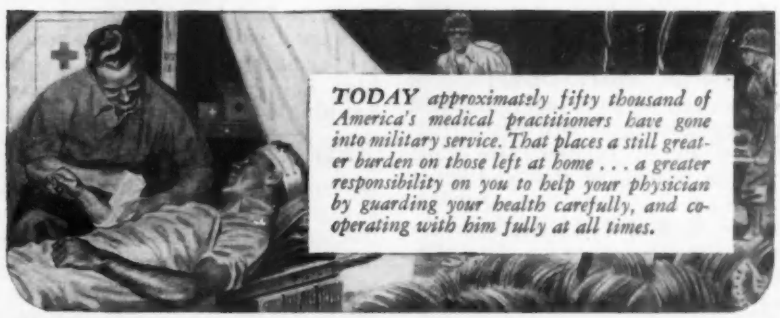
His years of intensive training in medical school and hospitals are only the beginning of a lifetime of study and practice. Besides long office hours and visits to patients, he must keep up with the findings of myriad research institutes and laboratories and clinics, with the experience of his fellow doctors and surgeons all over the world.

With modern developments in science and communication, a high degree of specialization has taken place in medicine, as in other fields. Your family physician, with his intimate knowledge of your needs, your history, your personality, is best fitted to diagnose your case and refer you, if necessary, to whatever specialist can help you most.

In his way, your family physician, too, is a specialist . . . a specialist in broad general knowledge, of medicine and human nature. He is humanity's faithful servant, adviser, friend!

•

"Medicine is the most beautiful and noble of all the arts," said Hippocrates, greatest physician of all times. His exalted Oath, after more than two thousand years, is still the basis of professional ethics for all physicians.



This advertisement is presented by S. H. CAMP AND COMPANY, Jackson, Michigan, World's Largest Manufacturers of Scientific Supports, in the interest of promoting a better appreciation of the medical profession's great contribution to a healthier and happier world.

Children and FIRE

By MAUD WILSON

Freedom from accidents doesn't just happen—except with unusual luck. Children must be taught safety rules and practices at an early age

SAFETY education for children consists of the development of safety habits, safety attitudes and safety skills, so that the child will not cause fires and will act intelligently in an emergency. He must learn the nature of fire and what conditions constitute hazards. He must be trained to be cautious but unafraid.

Training in safety habits should start as soon as the child begins to walk. Teach the baby to bring you a match if he finds one on the floor. Teach him to stay away from the fireplace and the stove. As soon as he is old enough to be interested, teach the child to light a match, hold it and dispose of it properly. Some children are fascinated by fire, and you may have to take the time to let the young child practice lighting matches until his curiosity is satisfied and you are sure he will not set fires.

Children should be taught to stay away from stove drafts and open fires because backfire flashes are extremely hot (or they wouldn't flash back) and easily set fire to clothes, hair or any flammable material they touch. Teach the child, too, to report at once any fire that is "out of place"—that is, not in the furnace, stoves or fireplace; to report smoke other than that from the top of the chimney; and to report at once if stove or stove pipe is red hot.

In teaching children to recognize fire hazards, all the common household situations should be included. The child should learn why accumulations of rubbish are dangerous. He should learn that hot ashes may look cold; that a garment hung at a distance from a stove or stove pipe may take fire; that gasoline vapor is heavier than air and may ignite a long way from the open container; and that an oily cloth left in a corner may catch fire by itself.

Before the child is old enough to be left in the house alone, the parent should be confident that he is well grounded in safety habits and that he is likely to keep his head in an emergency. By that time he should have had considerable practice in building fires, manipulating dampers and keeping fires going. He should be taught not to build bonfires unless there is an adult present, and should have training and practice in tending and putting out a bonfire.

Good example is important. If the father or mother pours kerosene into the stove in making a fire, a son is likely to do it when no adult is present, regardless of what he has been taught.

A good way to develop a sense of responsibility in a child is to let him help with home inspection. Let him look for cracks in the chimney, examine electric cords and calculate the current consumed by the appliances on each circuit. He will do a good job as an inspector, but, most important, he will acquire the quality of awareness which is so essential to the development of safety habits.

The older child can be given a share in the responsibility of making the home fire safe. He can help clean roofs and gutters before the dry season starts, clean stove pipes

You bet Poll-Parrot Shoes are made to fit, hold their shape and wear! But, behind these BIG things are lots of "little" ones... like *selecting* flexible, durable leathers.. *designing* extra reinforcements... *manufacturing* to a rigid standard . . . *striving* to make Poll-Parrots worth more. Modestly priced in most stores, $2.25 to $5.50 according to size.

POLL PARROT better FOR BOOK SHOE VALUE

LOOK FOR ME

ROBERTS, JOHNSON & RAND, DIV. OF INTERNATIONAL SHOE CO., ST. LOUIS

SHOES FOR BOYS AND GIRLS

STOP BRUSHING NURSING BOTTLES

HARMLESS CLEANSER ENDS THIS CHORE

Scrubbing baby's bottles with a brush is NOT the modern way to clean them! Instead, just drop a spoonful of *Puritan Brushless Baby Bottle Cleanser* in a gallon of water — bottles soak themselves clean in a jiffy! This specially designed cleanser works like magic—bottles are spotless and sparkling without trouble, fuss or bother! *49c & 79c, at your Department Store.*

Puritan BRUSHLESS BABY BOTTLE *Cleanser*

"A Child Is To Be Born"

Reprinted for expectant mothers from the series in "Hygeia"

10c

Symptoms • Exercise • Diet • Clothing

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535 North Dearborn Street, Chicago, Illinois

Keep baby covered all night with ...
COVERLOPE

The safe and easy way to be sure your toddler is covered—you'll both get a good night's sleep. A professionally designed sheet and nightie-shirt combination with featured crotch fastening. Freedom for turning to back or tummy. Your baby will like COVERLOPE.

Sizes 1, 2 or 3 . . . $3.95

★ ALLAN M. STEIG CO. ★
908 W. VAN BUREN ST. • CHICAGO 7

and rake the yard. He can do the routine checking of drafts, electrical appliances and open fires, at bedtime or when the family is preparing to leave the house for a time.

Find out what training the child is receiving in safety habits as a part of school, 4-H club, scout or campfire work and strengthen its effect by having him repeat instructions at home and by letting him carry home fire preventive measures into effect whenever possible.

The child is not old enough to be left alone in the house or with the responsibility of the safety of younger children until he knows what to do in case a fire breaks out. Be sure he knows what to do to summon help. If you have a fire extinguisher teach him to use it. Let him practice putting out small fires of various types. Teach him how to go into a smoke-filled room and what to do if his or another child's clothes catch fire. It is unfair to a child to leave him in charge of the house unless the younger children have been drilled in safety habits and have learned to obey his direction. If the children sleep on an upper floor let them practice climbing down the ladder or other means of escape until they are likely to negotiate it safely even when frightened.

Special dangers to children are open fires, matches, fireworks, celluloid toys and combs, Christmas trees and second floor sleeping rooms. If there are children of preschool age in the home, special precautions must be taken for their protection. Burns are the largest single cause of fatal accidents among children up to 4 years old. Keep matches out of reach and out of sight. Make sure the child's toys are of nonflammable material. Test the fire screen to make sure it will stand the impact of a child falling against it.

The Christmas celebration need not increase fire hazards. Use a freshly cut tree and leave it outdoors until you are ready to decorate. Do not use candles for decoration. Before putting on the Christmas lights, check them carefully for broken plugs or breaks in the insulation. Do not wrap the light bulbs with tissue paper or other flammable material. Fireproof the cotton batting used at the base of the tree or use nonflammable "snow." Dispose of the Christmas tree before it becomes dried out.

Do not leave fireworks in the house, packed or unpacked. When setting off fireworks, have a hose or bucket of water on hand.

at night...

when
"THINGS HAPPEN"
to Baby

ACCEPTED FOR ADVERTISING IN PUBLICATIONS OF THE AMERICAN MEDICAL ASSOCIATION

—he'll be a lot more comfortable and less likely to get Mother out of a sound sleep—if he is wearing a

Neslings
REG. U. S. PAT. OFF.

NIGHT PANTIE
No. 30/06

Surprising moisture-absorbing capacity because it's made of a full double-thickness Swiss Rib "Thirsty Knit" fabric. Band front—1-button side opening. Flexible waist band—comfortable snug fit. Two other styles of TRAINING PANTIES with double crotch gore, of Fine Quality Cotton.

Other "M" Neslings
GARMENTS for BABY

foldover and slipover shirts, sleeveless bands, tie binders, knit gowns, teething bib and SAFETY Knit Crib Blanket.

The "M" brand is your ASSURANCE of Quality and Value. Look for it.

War restrictions limit production of "M" GARMENTS. Please be patient.

MINNEAPOLIS
KNITTING WORKS
MINNEAPOLIS 11, MINNESOTA

M GARMENTS
UNDERWEAR, SLEEPWEAR, PLAYWEAR
for INFANTS, CHILDREN, MISSES and BOYS

GREATER...EVER GREATER...GROWS *Zenith's Crusade the*

NEW ZENITH RADIONIC HEARING AID...

LIKE A TIDAL WAVE, the success of this fine radionic instrument that opens the world of sound to millions is sweeping across the nation!

Again Zenith, world's leading manufacturer of radionic products exclusively, has scored a "first" of historic importance. Truly, it is the spearhead of a mighty Crusade... to rehabilitate new thousands of men and women for vital wartime work ... to save children from lives of failure and misunderstanding ... to bring new happiness to the hard of hearing, their families and friends.

America is entitled to know that Zenith, through this Crusade, has brought about a revolution in the cost of good hearing, as evidenced by the tremendous public demand. Zenith has been deluged beyond all anticipation! We are increasing our production daily, but Zenith will never sacrifice quality for quantity. The hard of hearing have waited years for this Crusade. We ask them to be patient a little longer, until Zenith production can supply the demand in all areas of the nation.

Meanwhile, you are invited to attend the demonstration now going on at your local optical establishment franchised by Zenith. Let your ears decide—you will not be pressed to buy. No salesman will call at your home. Send for our free descriptive booklet. The coupon below is for your convenience.

Only Zenith Gives You:

1 **The fine precision quality that modern knowledge and engineering make possible in a hearing aid, yet priced at only $40,** complete, ready to wear. *One model—no "decoys"... one price—*$40 *... one quality—our best.* You need not pay more or accept less.

2 **Four-position Tone Control.** The flick of your finger instantly adjusts it to the effective combination of low, medium and high tones for individual needs in varying surroundings, hearing deficiencies in a wide range. No further adjustments necessary.

3 **Special Battery-Saver Circuit.** Insures economy in battery consumption ... results in substantial saving of battery life and battery replacement expense.

4 **Zenith Quality ... Zenith Guarantee.** Zenith, world's leading manufacturer of radionic products exclusively, is fortunate in having the knowledge of precision production that makes possible this quality hearing aid at a remarkably low price. Guaranteed for a full year, with unique service insurance plan for life.

The Zenith Radionic Hearing Aid is available through reputable optical establishments franchised by Zenith.

to Lower Cost of Hearing!

Another Zenith "First"!

Accepted by American Medical Association Council on Physical Therapy

$40.00 READY TO WEAR

Complete with Radionic Tubes, Crystal Microphone, Magnetic Earphone and Batteries. No extras. No "decoys." *One model — One price — One quality.* Liberal guarantee.

BY THE MAKERS OF

ZENITH RADIO

•LONG DISTANCE•

RADIONIC PRODUCTS EXCLUSIVELY— WORLD'S LEADING MANUFACTURER

To Physicians:

A detailed scientific description will be sent upon request. Further technical details will appear in medical journals.

*

There are cases in which deficient hearing is caused by a progressive disease and any hearing aid may do harm by giving a false sense of security. Therefore, we recommend that you consult your otologist or ear doctor to make sure that your hearing deficiency is the type that can be benefited by the use of a hearing aid.

Mail Coupon for Free Descriptive Booklet

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P. O. Box 6940A, Chicago 1, Illinois

Please send me your FREE descriptive booklet on the new Zenith Radionic Hearing Aid.

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Address _____

City _____ *State* _____

W. D. Barlow

As the Twig Is Bent

By LILLIAN S. GRAHAM
and
MARJORIE WACKERBARTH

NO PART of the physical makeup of a child, however perfect, is more attractive than a set of sound, good looking teeth. Such teeth are every child's birthright. Nature intends that every youngster shall be so equipped, but too often nature is interfered with.

Orthodontists tell us that poor alignment of teeth is often brought about by certain habits babies have acquired. Few of us realize that in children a light pressure against jaws or teeth, if persistent enough, can move the teeth.

Most mothers know that thumb sucking is an injurious habit, but because the baby seems to get so much quiet pleasure from it the temptation not to break him of the habit is strong. Actually, thumb sucking forces the upper teeth forward and pushes the lower ones back, causing the chin to recede.

Thumb sucking is not the only injurious habit babies fall into. The child who sleeps with his head resting on his hands or who habitually sits supporting his cheek with his fist may develop a lopsided jaw. This means imperfect contact of the teeth and poor alignment resulting in incorrect functioning of the teeth.

Mouth breathing is another habit to be corrected. It leaves the nose undeveloped and causes the cheeks to press against the jaws. This narrows the dental arch, forcing the front teeth forward. The habit of compressing the lips may push the front teeth back. With none of these habits interfering, the tongue, lips and cheeks act as counter forces to keep the teeth in position.

Of course, if your child occasionally sleeps with his face resting on his hands or supports a tired head with his fist, it doesn't mean he'll have crooked teeth. It's the constant, persistent habit that does the damage. If these injurious habits are discontinued early in the youngster's life, an uneven bite may correct itself—at least to some extent.

Aside from personal appearance, this matter of perfect or nearly perfect alignment of the teeth is most important. Suppose a couple of lower and upper teeth on each side are projecting so that they strike before the others can come together. The projecting teeth do all the work, while the rest of the teeth lack normal use and exercise. The unexercised teeth eventually protrude from their sockets till they meet some resistance. They are no longer firmly set and are more inclined to get into wrong positions. Also the unenameled portion of the tooth normally covered by the gums is exposed to the air and the saliva and bacteria attack, which means trouble ahead from decay.

More than that, a defective bite means imperfect chewing. We know that unmasticated food not properly mixed with saliva leads to indigestion. Especially is this true in the case of children. Their digestive systems often have enough trouble coping with the strains placed on them without the added burden of badly chewed food.

Sometimes the permanent teeth are crooked because of the premature loss of baby teeth. Our best authorities say that if the deciduous or baby teeth can be kept in a healthful condition until the permanent teeth are ready to appear, a better alignment of the permanent teeth will result. The baby teeth seem to guide the permanents into their proper positions.

The new baby may look toothless to you when he arrives in this world, but the little fellow is not really toothless. Deep in his jawbones he has twenty deciduous or first teeth and the first permanent teeth (six year molars) in the formative stage. In fact, the teeth begin to develop during the third month of prenatal life; that is, cells within the jaws begin to form teeth.

The central incisors, those four pearls in the center front of the baby's mouth, usually appear first —some time between the sixth and eighth months. However, the time of their appearance often varies, somewhat, so don't be alarmed if your child is a little late in getting his teeth. The two lower teeth usually appear before the two on the upper jaw.

The eruption of teeth is a normal process, usually unaccompanied by any disturbance, although some children are cross at this time. If there seems to be any illness at the time of eruption, a physician should be consulted just as in the case of any other illness, because high fevers, disturbances of the glandular system and poor nutrition may affect the forming of enamel on the teeth.

Most children have all their twenty deciduous teeth at 30 months of age. By this time, the permanent or second teeth are in various stages of development. At this age, or before he is 3, the tot should make his first visit to the dentist. This visit should establish a feeling of friendliness toward the dentist. Introduction to the dentist at this early age, when there is little or no work to be done, will do much to eliminate the feeling of fear which often has led both young and old to avoid needed dental service.

When the youngster is about 3 years old he should learn how to brush his teeth. He should do this for the same reason that he washes his face—for health and appearance. True, Nature never thought of the toothbrush. Perfect teeth are self-cleansing, because the upper back teeth should come down over the spaces between the lower back teeth, rather than tooth directly over tooth. The uppers and lowers then mesh, fitting into each other's grooves. In this ideal set of teeth, the space between the teeth is something like an inverted "v," so that the food, instead of getting jammed and wedged between the teeth, is automatically squeezed out, leaving the space between the teeth clean. Of course, the ideal of Nature is seldom realized. To be safe, every one needs to use the toothbrush.

As the child nears 5 years of age, spaces appear between the teeth, showing that the jaw is growing to provide room for the larger, second teeth. These permanent teeth develop slowly under the gums in the jawbone, and the roots of the baby teeth are gradually absorbed, until only the crowns of the teeth are left. Then these come out without much difficulty as a rule. However, the first permanent teeth to appear do not replace baby teeth. They are the first permanent molars, and they erupt back of the deciduous teeth, being sixth in line from the center of the mouth. They usually appear around 6 years of age and so are sometimes called the "six year molars."

Fortunately for today's child, dentists are trained to straighten crooked teeth and correct imperfect alignment. However, much less straightening will be necessary if the mother watches her baby's habits. She should be on guard against constant thumb sucking; biting of the tongue, lip or cheeks; mouth breathing and poor posture while sleeping. The child will be blessed with straighter, better looking teeth to pay for this small extra attention.

Childbirth and the First Days of Life

(Continued from page 189)

little creature by virtue of his rapid growth.

The infant should sleep from eighteen to twenty hours out of the twenty-four. It is extremely important for young infants to have their requisite amount of sleep, as this is their main growth period. All infants up to the age of 2½ months should have an adult sleeping in the same bedroom, and after that, in an adjoining room. The newborn baby should not be subjected to a cold bedroom. Before his birth, the temperature of his surroundings was 98.6 F., so it takes about three months for his body to adjust itself. During this time, the room temperature may be lowered from 80 to 75 F., then to 70 and 65, and finally to 45 degrees.

Crying periods of more than an hour demand investigation. An excessive amount of severe crying is not good for the proper development of the baby's nervous system, and it may lead to emotional instability in later childhood.

Your baby needs the blissful comfort embodied in all Storkline scientifically designed Nursery Furniture and Baby Carriages.

Guaranteed by Good Housekeeping

You, Mommy and Daddy, will enjoy the conveniences, the charm and the quality that are unmistakably Storkline—that have made Storkline so exceedingly popular, so universally approved. *The handsome crib, illustrated, is obtainable with our famous adjustable spring.*

Storkline

World's Largest Manufacturer
INFANT AND JUVENILE FURNITURE AND BABY CARRIAGES
See displays at Department Stores, Furniture Stores and Infant Shops.

WRITE FOR NAME OF YOUR NEAREST DEALER
STORKLINE FURNITURE CORPORATION
4412 W. 26th ST. CHICAGO 23, ILL.

New Cream Deodorant

Safely helps

Stop Perspiration

1. Does not harm dresses, or men's shirts. Does not irritate skin.
2. No waiting to dry. Can be used right after shaving.
3. Prevents under-arm odor. Helps stop perspiration safely.
4. A pure, white, antiseptic, stainless vanishing cream.
5. Arrid has been awarded the Seal of Approval of the American Institute of Laundering, for being harmless to fabrics. Use Arrid regularly.

ARRID IS THE LARGEST SELLING DEODORANT

ARRID

39¢

(Also 10¢ and 59¢ jars)

Buy a jar of ARRID today at any store which sells toilet goods.

Give your baby a *head start* with *Lullabye* Furniture

You'll find qualities in the design of Lullabye furniture that build sound bodies, develop child character . . . and make mother's work easier too. See these attractive practical cribs and child groups at leading stores everywhere, or send 10c for entertaining nursery booklet, "It's Lullabye Time."

LULLABYE FURNITURE CORPORATION
Dept. 534, Stevens Point, Wisconsin

Straight Talk About Sick Minds

(Continued from page 195)

returned home she greeted him as naturally as she'd have greeted any other convalescent. Her wholesome attitude was a great help to both Henry and Theresa and took much of the anguish out of their temporary misfortune.

It would be a great help, too, to the half million patients in mental hospitals in the United States and Canada, and to the taxpayers who have to support them, if every one realized that many forms of mental illness are as curable as many physical illnesses, if they talked about them as such, and if they acted accordingly. The idea that "there's nothing you can do for the poor things but keep them safe" accounts largely for the public indifference which keeps many potentially curable patients occupying mental hospital beds. In some states politics dominates mental hospital management. In others appropriations are so meager that proper care and treatment are impossible.

You can find out about the mental hospitals where you live from the National Committee for Mental Hygiene at 1790 Broadway, New York City, or at 111 St. George Street, Toronto, Canada. If you learn that they are inadequate, let your legislators know, promptly and emphatically, what you think they ought to do about them! In the meantime, when talking about mental illness, discard the medieval words which shackle modern thinking and modern treatment.

HEALTH EXHIBIT ON WHEELS

Latest step in health education by visual methods, the "Healthmobile" shown here is the graphic story of tuberculosis—presented on wheels. Displayed at health centers, industrial plants, schools and other public gatherings by the Brooklyn Tuberculosis and Health Association in cooperation with the New York City departments of health and education, this mobile exhibit has now been viewed by more than 500,000 people.

The Healthmobile is a former New York World's Fair sight-seeing bus transformed into a health museum. Its twenty-two windows are used for motion and still picture exhibits illustrating the important facts about tuberculosis and historical points of interest; inside, further exhibits give in orderly sequence a clear understanding of the cause, means of transmission, treatment and control of tuberculosis. Inside exhibits utilize all the newer technics of museum display, including recordings, moving panels, fluorescent lighting and "audience participation" features.

By special arrangement, school children are given the opportunity to visit the Healthmobile during school hours as a part of their regular instruction in health education. Adult visitors are given additional information about tuberculosis in leaflet form and are asked to register for further details prepared especially for parents, teachers, tuberculosis patients and other special groups.

During an exhibit, the side panel of the Healthmobile is removed, exposing display windows which tell the story of tuberculosis. More exhibits are presented inside the Healthmobile, completing the story

Clinical Laboratory Technicians

(Continued from page 197)

corresponding increase in the annual number of graduates, even though there has been an increase in the number of approved schools. After the present emergency, it is believed that more reliance will be placed on laboratory procedures; this will require additional personnel. Technicians in the armed services will undoubtedly have numerous opportunities to remain on the government payroll by appointment to veterans' hospitals and other agencies connected with rehabilitation. Industry will continue to use large numbers of technicians in the clinics which are being established to care for workers. All these facts make leaders believe that the civilian needs for technicians will not be adequately met for many years after the present emergency.

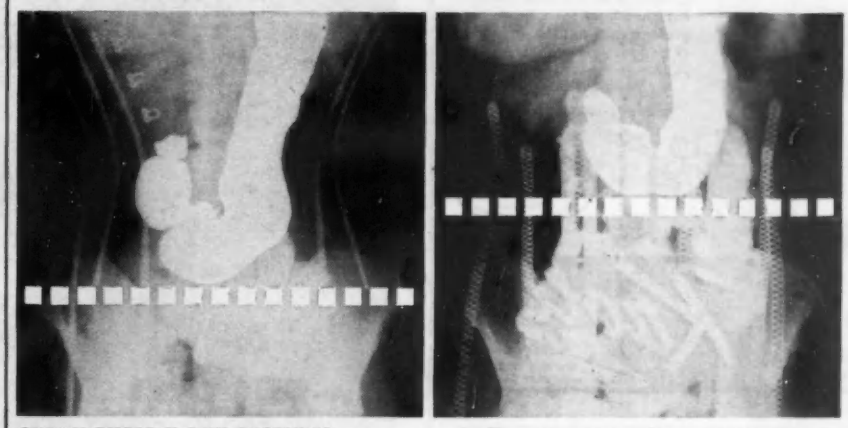
Salaries of technicians have been influenced by the present demand for these workers. At one time most girls who had just finished their training began working for $90 to $110 a month. After a few years of experience, many were receiving between $125 and $150, while some obtained much more. At present it is not uncommon to find that salaries have been increased $20 to $30 a month. If the need for technicians continues after the war, as it is believed it will, there is no reason why lower wages should be expected in this profession.

There was another question which Mary was eager to have answered. She wanted to know something about the type of training that was offered. The pathologist was pleased with her interest and made arrangements with the chief technician for a tour of the laboratory. Several technicians were working in the laboratory, most of them using apparatus with which Mary was already familiar. It was explained to her that twelve months of hospital training resulted in a definite assignment to each division of the laboratory. Class instruction was scheduled at regular intervals, and in addition each student was assigned to a senior technician who acted as a personal instructor and coach. As soon as technics were mastered the student would be urged to start performing tests on samples sent to the laboratory. All these results would be checked. The student would gain confidence by doing the actual work of the laboratory. Additional experience would be obtained by collecting specimens from patients in the hospital and clinic. These

X-RAYS SHOW HOW CORSET MAY HELP RELIEVE WARTIME FATIGUE

IF the war's got you working harder, you're sure to be interested in this evidence of what proper figure support may do for you! These X-rays, made under competent medical supervision, show the supporting action of an individually made Spirella. The picture at the left below shows the constricting action of an ordinary corset, which crowds the stomach down. The other picture is of the same woman in her Spirella. See how her stomach is raised almost three inches! That's Spirella's natural support for you! No wonder housewives, workers in war plants, women in offices all report that they feel better—and look better, too, in their individually made Spirellas!

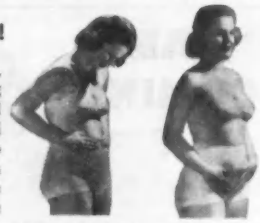
Call the Spirella corsetiere today! With the help of the exclusive Spirella Modeling Garment she'll show you exactly how you'll feel and how your clothes will look with your own Spirella. The measurements she takes of your supported figure insures that your Spirella will give you the same comfort and the same fit—your figure at its best!



STUDY THESE X-RAY PICTURES. Dotted line shows stomach position. Picture at left shows action of ordinary corset. Picture at right shows the natural support of a Spirella.

Let this simple test convince you in your own home tonight!

Try this when you undress for bed. It takes but a minute. Press down on your stomach. That's the constricting, crowding pressure of the ordinary corset. Then lower your hands and lift up. That's the natural support an individually designed Spirella gives as long as you wear it! No wonder women who are wearing their first Spirella say, "It makes me feel 10 years younger. And my figure looks so much better!" Phone the Spirella figure support expert in your community today, or use the coupon.



PRESS DOWN LIFT UP

TO WOMEN WHO WANT TO MAKE MONEY HELPING OTHERS

If you are not in a position to do full-time war work, you can help other women find new comfort and happiness—and at the same time add to your own income. Mrs. M. L. G. (name on request) writes, "Two children prevent my volunteering for full-time war work, but I help hundreds do their job better with Spirella figure supports. Last month I made $137 from my business—and dozens of new friends." Why not mail the coupon today?

LOOK TRIM AND KEEP FIT WITH **Spirella**

INDIVIDUALLY-DESIGNED FIGURE SUPPORT

SEND FOR FREE "KEEP FIT" BOOK

The Spirella Company, Inc.
Dept. M-14, Niagara Falls, N. Y.

☐ Send me your free book, "Keep Fit".
☐ Tell me how I can start my own profitable Spirella business.

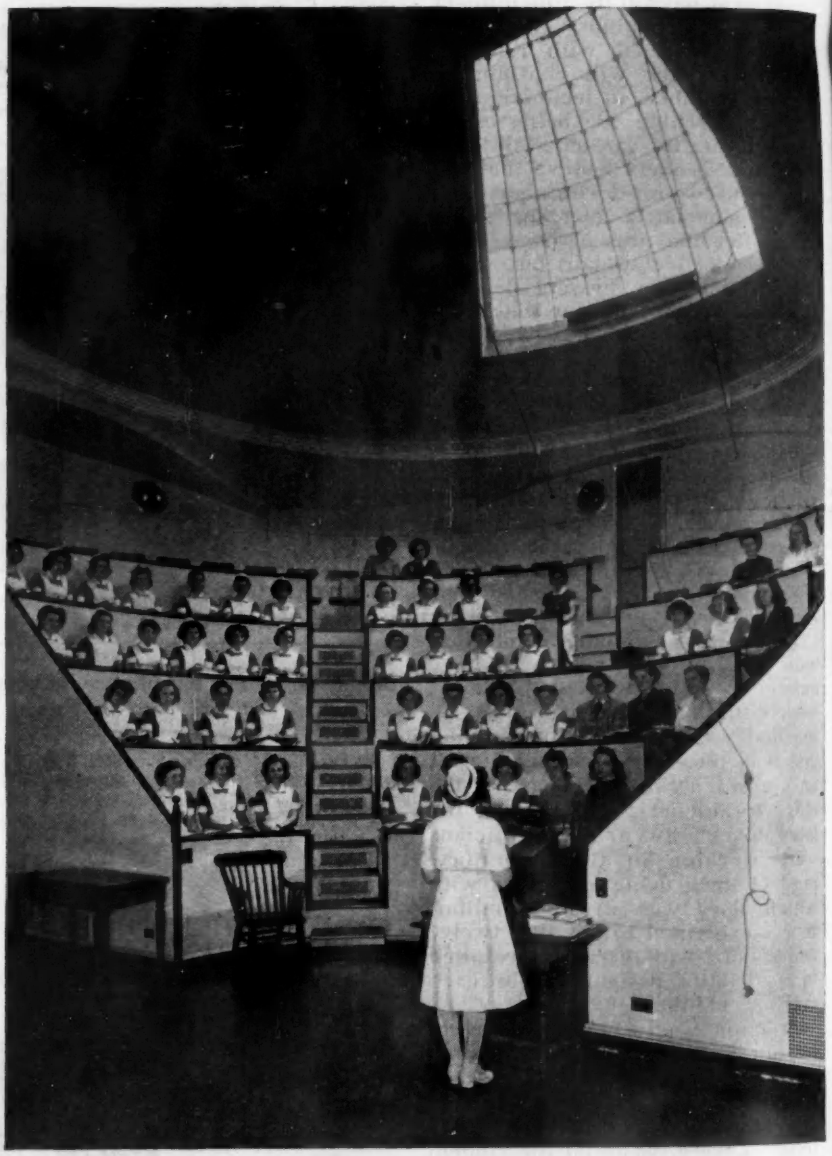
Name _____

Address _____

City _____ *State* _____

In Canada, write The Spirella Co., Niagara Falls, Ont.

would be studied by the student, who would then report to her instructor. Thus each student would perform the same tests that are assigned to graduate technicians and would meet patients as well as hospital personnel. Such a program is planned to develop self confidence and the formation of habit patterns that stay with the technician throughout her professional life. Each student also reports her experiences daily so that letters of recommendation can prove her value. For instance, now the pathologist can recommend one of his former students by saying that during twelve months of training the applicant had the following experiences: over 1,000 complete blood counts, over 500 Kahn and Wassermann tests, 200 blood sugars, 150 nonprotein nitrogen tests, 100 bacterial cultures obtained and identified, and so on. Such a letter means more than anything that could be said in behalf of the applicant. It proves beyond doubt that the technician is capable when she has completed her training.



IN THIS ROOM at the Massachusetts General Hospital, Boston, on October 16, 1846, Dr. John Collins Warren operated on a patient under ether. Soon the new "painless surgery" was heralded throughout the civilized world. Known since that time as the "Ether Dome," the room is used today for classroom instruction of student nurses at Massachusetts General. In this and other classes students learn the scientific principles and technics of nursing. Nursing and the other technical fields related to medical care are in need of additional personnel for today's needs and to meet demands of expected postwar expansion. Young people are urged to investigate these fields.

Ajust-a-matic Feature

Exclusive KROLL feature lengthens the life of the crib. Enables growing child to climb in and out of bed safely. Note tilting spring . . . brings comfort to sick baby.

Sold at leading department, specialty and furniture stores

Converts into Jr. Youth's Bed

Guaranteed by Good Housekeeping

KROLL KRIB

FREE FOLDER
Write
Kroll Bros. Co.
Chicago 16, Ill.

Kroll Quality
JUVENILE FURNITURE and BABY CARRIAGES

Mention HYGEIA when writing to Advertisers

BABY COMING ?

CONSULT YOUR DOCTOR REGULARLY. Ask him about the advantages of improved Hygeia Nursing Bottle with easy-to-clean wide mouth, wide base to prevent tipping, scale applied in color for easy reading. Famous breast-shaped Nipple has patented air-vent to reduce "wind-sucking."

HYGEIA "STERI-SEAL" CAP—Another important improvement. Prepare formula and fill bottles for day's feeding. Then attach Hygeia "Steri-Seal" Cap (see arrow in picture) and nipples and formula are kept germ-proof until feeding time.

Ask your druggist for Hygeia equipment today.

HELP WIN THE WAR by conserving rubber. Use a separate nipple for each feeding. Clean immediately after use. Avoid excessive boiling.

HYGEIA
NURSING BOTTLES & NIPPLES

Tuberculosis

(Continued from page 183)

all ages from 1 to 80 years, but the average age among a group of his patients was approximately 39 years. The duration of the disease, he found, varied from twenty-five days to forty years after it was discovered.

When the college age period is over and persons enter their life's work, the number of tuberculin reactors who develop chronic pulmonary tuberculosis increases. In fact, at this age there may be 1 case among every 100 reactors on the first examination, and in some groups even more. It is during the period of adult life that tuberculosis causes its greatest destruction among humans as well as among animals. In this country, tuberculosis is still the first cause of death between the ages of approximately 15 and 45 years. The highest mortality is attained at different ages in different parts of the country; in one place it may be approximately 25 years, in another 35 years.

In recent years, the incidence of chronic tuberculosis of the lungs has decreased in the earlier years of adult life because so much has been done to protect children and young adults against infection with tubercle bacilli, but in the later decades of adult life there has been little change in the incidence of disease, probably because when persons in these decades of life were children and young adults almost nothing was done to protect them against either the human or bovine types of tubercle bacilli. Thus by reason of infections which they acquired earlier in life, there is a relatively large number of persons suffering from tuberculosis in these later decades of life.

OLD AGE

The idea is extant that after the age of 50 tuberculosis is a rarity. Nothing is further from the truth. In fact, it is during this period that more contagious tuberculosis of the lungs exists for the number of persons living than in any other period of life. There are several reasons for this. First, many persons who have acquired chronic tuberculous lesions in earlier life have had them controlled by the natural defense mechanism of the body without any treatment whatsoever; others have been treated to aid nature in bringing their disease under control. No treatment yet known destroys tubercle bacilli. The natural defense mechanism of the body, unaided or aided by special treatment measures, rarely destroys the tubercle bacilli; it simply walls them off

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with scar tissue, but they remain a potential menace to subsequent health. Thus many persons whose tuberculous lesions have been kept well under control for years or decades on entering the declining years of life manifest evidence of disease due to reactivation of their old lesions. Usually, they are not extremely ill; they often have only such symptoms as cough and expectoration, frequently misinterpreted as those of ordinary chronic bronchitis. But when examined they react to tuberculin; x-ray inspection reveals shadows, and laboratory examination recovers tubercle bacilli from the sputum. These persons frequently live without much personal handicap from the disease and die of senility or some other cause than tuberculosis. They constitute an extremely important public health problem, because they appear and feel well, yet their disease may be contagious to others. For example, a woman of 31 years had tuberculosis in the upper part of the right lung in 1902. Tubercle bacilli were found in her sputum. She was treated by bed rest and apparently made a good recovery, after which she continued her usual activities. In 1936, at the age of 65 years, she expectorated blood, and examination revealed evidence of reactivation of the old disease in the upper lobe of her right lung. Again, she had tubercle bacilli in the sputum.

There is another group of elderly persons who have been infected earlier in life but do not develop chronic tuberculosis of the lungs until they are past the age of 50, whereupon a new infection is as significant as one which develops earlier in life. Still other elderly persons have suffered from tuberculosis in earlier life and have overcome it so well that they remain in good health and live to be extremely old. The following two cases are good examples:

Catherine Hollenbeck Hoffman died in 1939, just three years short of the century mark. This doughty little woman was born in Erin, New York, in 1842. Even as a young girl, Catherine Hollenbeck demonstrated the independence and self reliance which characterized her entire life. The migration to the great territories of the West had begun, and when her brother declared his intention of going to Wisconsin, 16 year old Catharine insisted on going along. Here she later met and married a farmer named Philip Hoffman. Four children were born in the first home which they built. Catherine Hoffman was a little bit of a woman, but very energetic. Besides taking care of her own household and rearing her own children, she found time to make friends with her neighbors and to help them when they needed her.

It was through the years while she was rearing a family, and through middle life that Mrs. Hoffman suffered from the most serious illness in her long and active career—tuberculosis. Periodically she would have hemorrhages from the lungs, take to her bed and call in the doctor. Whenever she fell ill she would remark philosophically, "Well, I have never died yet." After each attack she would stay in bed for a time. She made a satisfactory recovery, for from middle life on her health was consistently good. When she was 65 and her husband and all her children were gone, Mrs. Hoffman announced that she was going out to Montana with her friends and take up a homestead claim. Despite predictions to the contrary, she stayed on the claim and made it pay. When she had been on the claim for fifteen or sixteen years, she got the urge to move west for the third and last time. She moved to California, and for nearly twenty years her little house there was the headquarters and gathering place of her clan. She made her last trip when she was 95. Just a month before her ninety-seventh birthday she fell ill with a cold and died in the hospital a week later of pneumonia.

Levi Day was discharged from the army in the days of the Civil War because of tuberculosis, yet he lived to be 100 years old. The medical examiners of the Civil War were not as strict as Army doctors are today, neither did they have the means of detecting early disease, and no doubt young Levi Day, a Minnesota farm boy, looked fit as a fiddle the day he stepped into his uniform. But conditions in camps and barracks were not any too good, and young Day was taken ill. His trouble was in his chest, and it seemed to hang on for a long time. Finally, his disease was diagnosed as tuberculosis and he was recommended for a discharge. The doctors told him that if he could stand the journey home he might live for two or three years. With its dry air, Minnesota was at this time considered a beneficial climate for tuberculosis. Fortunately, the boy's illness responded to the good food and treatment he found at home. He had a long convalescence and gradually recovered his health.

Although Levi Day was never accepted for insurance by a life insurance company because he was considered a poor risk, he remained in fair health for the rest of his life.

Rehabilitation

(Continued from page 186)

vised outdoor games and recreational activities were planned for those well on the way to recovery. This plan is now in full operation in 250 AAF hospitals.

In cases of operations, most AAF patients now start their physical exercises the second day after the operation. Hernia, hemorrhoid and appendix patients omit thigh and abdominal exercises at the start, tonsil patients omit neck exercises, and fracture patients omit exercising the part that is fractured.

But Colonel Rusk believed that the mental side of the soldier needed exercise and stimulation as well as the physical side. He therefore instituted a broad educational program to match the physical program. Under this the soldier-patients are taught self protection, gas warfare, camouflage, booby traps, aircraft identification and other military matters. Classes in languages and history and lectures on current events are also held and are found to be extremely popular. Patients are used as instructors, whenever possible, about 75 per cent of the AAF instructors falling in this category.

Maj. Gen. David Grant, Air Surgeon, recently pointed out some of the concrete results of this new program, stating: "Hospital re-admissions have been reduced because men are being sent back to duty in better physical condition. The periods of convalescence in certain acute, infectious and contagious diseases have been definitely shortened. One hospital reported a reduction from fifteen to eleven days in patients with measles, and a drop from thirty-three to twenty-three days for convalescents with scarlet fever."

Virus pneumonia patients showed startling results under the new method. In a recent test with more than 600 patients, it was found that fourteen days of hospitalization were saved over the old method, with only 3 per cent recurrence compared to 30 per cent before.

Hospital administrators all over the country are studying the new AAF method of hospitalization for convalescent patients, and it may not be too long before the experiences of Mary Jones, Sam Brown and Billy Smith will be commonplace in our civilian hospitals.

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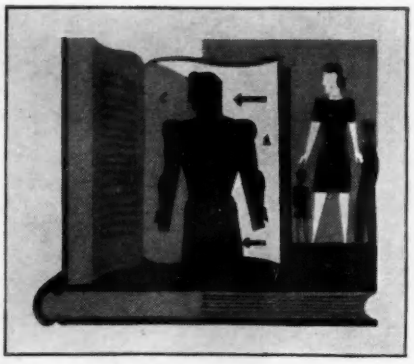

NEW BOOKS ON HEALTH

Modern Ways with Children

By Elizabeth B. Hurlock, Ph.D. Cloth. Price, $2.75. Pp. 393. New York: Whittlesey House, McGraw-Hill Book Co., 1943.

Though her style borders at times on the precious and is often oversimplified to the point of annoyance, Mrs. Hurlock's book probably includes most of the knowledge up to date parents should have in order to avoid serious mistakes and raise their children to be healthy, well adjusted adolescents and adults. In general, however, books like this bring to mind the story about the farmer who was visited by a representative of the department of agriculture. Glowingly the government man described what his agency was prepared to teach the farmer about modern, scientific agriculture—but the farmer remained unimpressed. So the representative launched into a panegyric on the manifold benefits to be gained from knowledge of crop rotation, soil conservation, scientific planting, animal husbandry and so on. When he finally finished, the farmer spoke for the first time: "Ain't farmin' now as good as I know how," he said.

The story underlines an important point about books on child care. Most parents—certainly all those who can be expected to read any such book—aren't as good mothers and fathers now as they know how to be. The fatigue and impatience and nervous tension which are the inevitable accompaniments of modern living keep interfering with their ability to handle their children intelligently. What these parents need most is not more books on child care but a book which will instruct them in the art of keeping their homes free of tension and impatience so that they can apply what they already know about raising children. Mrs. Hurlock has written an acceptable book for parents, but she hasn't written the one that really needs to be written, and neither has any one else.

ROBERT MARIS.

Ten Lessons on Meat for Use in Schools

Paper. Price, 10 cents. Pp. 135. Sixth edition, scientific chapters revised and rewritten. Chicago: National Livestock and Meat Board, 1943.

In its first few chapters this booklet presents up to date, scientific information relative to the composition of meat. Its various nutritional elements are accurately described in a manner that is readily understandable. The material is then developed to show where these elements fit into and are a necessary part of a good diet. Charts are shown which compare the relative contribution of various nutritional essentials made by meat and other foodstuffs. The chart which shows the relative number of calories supplied by selected servings of various foods is technically accurate but might be accused of implying that meat (protein) provides a greater share of the daily calories than it actually does.

Vitamins are discussed with respect to their sources in commonly used foods, the vitamin requirements and their function in the human body as reflected by vitamin deficiency. These facts are briefly and accurately presented and should serve as good source material for teaching elementary courses in nutrition.

The subsequent chapters provide much interesting and valuable information for those who are concerned with buying, preserving, cooking and serving meats. This would be of interest to any home economics class.

GEORGE K. ANDERSON, M.D.

Managing Your Mind

By S. H. Kraines and E. S. Thetford. Cloth. Price, $2.75. Pp. 374. New York: The Macmillan Co., 1943.

The subtitle of this book, "You *Can* Change Human Nature," reveals the attitude and spirit in which it is written. The authors set out to demonstrate that by proper understanding of his physiologic and psychologic processes, the reader can so modify basic atti-

tudes as to relieve himself of disturbing physical and psychologic symptoms and disorders. The introductory chapters deal with the physiologic mechanisms and systems through which the organism gives expression to inner states of tension and reacts to outer stimuli. A chapter on "Emotional Thinking," a somewhat confused chapter, discusses the large role emotional reactions play in determining our presumably rational behavior. Psychologically determined disturbances involving the various bodily systems are described. A much too brief chapter on mental mechanisms is followed by a discussion of the neuroses. There is a well presented chapter on sex and marriage. The final chapters are descriptive and prescriptive, covering many individual problems, with numerous case illustrations.

There is much good reading in this book, in which an excellent mental hygiene point of view is presented. The more theoretical chapters lack clarity and can hardly be useful to the general reader. A more systematic presentation of the commonly accepted concepts of dynamic psychology, meagerly dealt with in the chapter, "Psychologic Mechanisms," would help. The case material is good for the purposes intended by the authors; the discussions and interpretations of the cases are, probably intentionally, often most superficial. The style is somewhat redundant; the essential content could be presented well in a briefer work.

GEORGE J. MOHR, M.D.

First Aid Training: A Study and Practice Book

By Morris Fishbein, M.D., and Leslie W. Irwin, Ph.D. Paper. Price, 80 cents. Pp. 216. Chicago: Lyons and Carnahan, 1943.

This is an excellent workbook on accidents. It starts out with a pronunciation word list. It is organized into fourteen units, plus unit and review tests and a listing of first aid supplies.

Unit I deals with the importance of knowing first aid; unit II with the body machine; and the other units with shock, first aid for wounds, the control of serious bleeding, the breath of life, first aid for internal poisoning, first aid use of bandages, injuries from heat and cold, injuries that require special attention, everyday problems in first aid, first aid for the unconscious, emergency transportation of the injured, and first aid treatment of fractures, dislocations and sprains.

Typical of the organization of the book is Unit I, "The Importance of Knowing First Aid," in which are contained paragraphs on what first

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aid is, who should give first aid, what are the aims and purposes in first aid training, information on accidental deaths and injuries and some of their important causes, and important facts to remember in giving first aid. Then follow three pages of activities, including a practical problem, and one page of important things to remember. Subsequent units are developed in similar manner, though perhaps at greater length in some instances, in accordance with the needs of the particular topic.

The book is bound in paper and is ingeniously made up so that it can be used either as bound or in a ring binder. Each page is perforated so that it can be torn out, and there is space provided in the margin for the student's name, his class section and the date. In addition, the pages are punched so that they can be kept in a standard, two ring binder.

Coming as it does from the laboratory schools of the University of Chicago, this book should be a very useful instrument in the hands of the teacher. W. W. BAUER, M.D.

What to Do Till the Doctor Comes

By Donald B. Armstrong, M.D. Cloth. Price, $1.00. Pp. 354. New York: Simon and Schuster, 1943.

This is literally a handbook. It measures four inches by six and a half inches and is a trifle over a half inch thick. Its upper left hand corner is punched and threaded with a string by which it can be hung in a convenient place. On the inside front cover are spaces for name, address and telephone number of the family doctor, another doctor in the neighborhood, a drug store, fire department, police department and gas and electric company.

The book is in four parts of which Part One contains general information about what to do before the doctor comes; Part Two deals more extensively with the "big four" emergencies—namely, suffocation, bleeding, chemical poisoning and shock; Part Three gives in alphabetical listing instructions about various injuries and other emergencies; Part Four concerns injuries to civilians and first aid.

This excellent handbook is complete, reliable and as brief as is consistent with clearness and understanding. There are good diagrams, tabulations and charts. The alphabetical list is extremely comprehensive. W. W. B.

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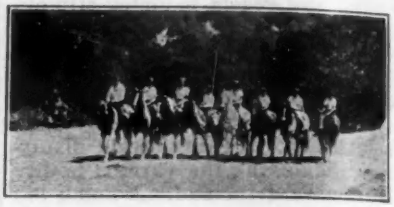

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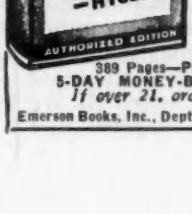

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Health and Personality

(Continued from page 191)

balanced adjust themselves less readily to others than normal people do.

So do the emotionally unbalanced adjust themselves slowly. The man or woman who is thin skinned—who is forever being offended, like the one who suffers from an inferiority feeling—is emotionally unbalanced. So is the one who still suffers from infantilism, flies off the handle, "blows up" in the office and bawls at his employees. Special preferences go to those who are more even tempered. There is usually something lacking in a man's ability when he relies on fear to put across his desires. It just isn't human nature to like the person we fear.

The child needs affection in order to grow, and it seems that no one who remains human ever outgrows that need of affection. We may need the affection of one or of many. Naturally, we should not expect others to shower their affection on us if we are not worthy or if we do not reciprocate. Affection goes with the sense of belonging. The stranger in our city does not have that feeling, but it is likely that he longs to have it. It is possible to maintain a wildcat exterior and a mild interior, but only those who want to profit from knowing us will take the trouble to find the mildness in us.

Historically speaking, personality approval has changed from time to time. For instance, in the eighteenth century a lady was considered attractive when she appeared a little frail. Her tendency to faint, always, you will recall, with some man ready to catch her before she reached the floor, lent considerable personality appeal. To be healthy looking was much against the feminine appeal. For women to have minds of their own and show it too vociferously was something too much for any man to endure.

While modern women are still opposed to adiposity, they certainly do not go in for poor health. The "skin you love to touch" and "that school girl complexion" place women in a new era. Many of them are in the Army now, and being able to "take it" gives them a new appeal. What tomorrow's woman will act like is unpredictable, but a return to older ideas of femininity may be ruled out.

"If for any reason you look pale or ill, you will probably be asked if you have had any serious illness recently," writes one vocational adviser of young women trying to find themselves in the business world. Then this adviser adds: "If, by firm muscles and good color, you show that you spend your week ends out of doors and take other precautions to preserve health, it's all in your favor." Healthy looks are business assets for women.

The perfect personality is perhaps a dream. All of us have fallen short of the glory attendant on wholesome personality as most specialists in the field would define the term. Nevertheless, nature makes some phenomenal adjustments and some amazing compensations. The first world war gave us plastic surgery as an aid to nature, sometimes as a corrective of the mistakes of nature. It seems likely now that the use of blood transfusions and the new drugs will be our chief blessings from the present war. Certainly the war will not idealize weak personalities!

Nature is usually with us in making adjustments. Nature will aid the surgeon's knife in correcting an underslung jaw or a mouth that is too large; it will aid the scientist in growing outer ears on those born without them. It will correct ears which grow unduly out of place. But we must make the social adjustments which minimize our incompleteness ourselves. We need not bore others with our illnesses. Indeed, self pity becomes a damaging personality trait. It is easy for the person who has been sick, or who has had more than his share of trouble, to seek sympathy. Perhaps our best friends are those who will not permit us to talk about such matters.

Knowing the importance of having a passable personality, knowing some of the things which prevent our being liked and which prevent our having the influence we should have, should start us on a check-up of ourselves. Human beings can be modified. Man learns his unfavorable attitudes and offensive habits; at least, he is not born with them. He can learn the more favorable ones as easily as those which are unattractive. But he must have a desire to learn them. Realizing the competition we shall face in all fields of livelihood when this war is over, we shall need as winsome a personality as we can acquire. It will give us greater personal happiness. It may mean the difference between a good job and no job at all.

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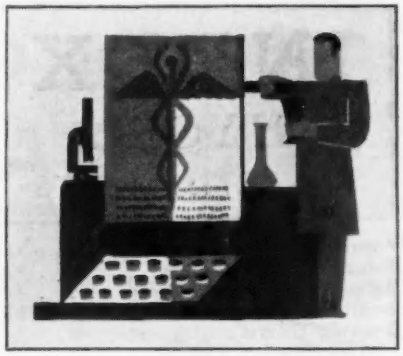

MEDICAL NEWS OF THE MONTH

New Method for Treating Burns

A new method for the treatment of burns, the local application of medicated human blood plasma, is reported in the January issue of the *United States Naval Medical Bulletin.* By use of a 5 per cent solution of sulfanilamide suspended in human plasma, to which was added a 2 per cent gelatinous solution to make the mixture thick enough to facilitate application to the burned area, definitely better results were obtained than by the use of any one of the many methods in vogue during the past two years, Melvin D. Abbott, Commander (MC) U.S.N., and John R. Gepfert, Lieutenant (MC) U.S.N.R., say.

Explaining their technic, they say that burned areas were first treated with soap and warm sterile water, then flushed with a sterile, normal saline (salt) solution. Blisters were not opened. A thick layer of the plasma-sulfanilamide solution was applied over the entire area. Two thicknesses of gauze were superimposed, and the entire area covered with waxed paper, secured along all edges to healthy skin by the use of adhesive strips.

Each twenty-four hours a small portion of the adhesive was raised and sufficient salt solution introduced to dampen the burn area and the overlying gauze. They say additional plasma does not appear to be necessary but salt solution is in order to keep the dressing moist. Despite all efforts to prevent evaporation, all cases treated by them showed rapid loss of fluid from the dressing. In the majority of patients, the dressings were not changed until the fifth day. Ten patients with a total of twelve burns were treated by this technic. All burns were second degree, some with blisters. The shortest period required for healing was four days, the longest seven, and the average five.

Their conclusion on the results is based, they say, "upon a wide experience in the treatment of burns by the tanning, ointment, jelly, triple dye and saline wet pack methods. . . ."

In the same issue of the *Bulletin* is another report which shows how far medical science has progressed in the treatment of burns since a decade or so ago, when it was said that any burns involving more than one third of the body area invariably were fatal. In their discussion of the treatment of burns, Richard A. Kern, Captain (MC) U.S.N.R., and five of his colleagues tell of a Navy fireman, aged 19, who recovered and returned to duty after suffering burns involving between 75 and 80 per cent of his body surface. Treatment included the administration of plasma and a saline solution by injection into a vein, the application of sulfathiazole ointment on sterile gauze dressings held in place by snugly applied elastic bandages, skin grafts, sedatives and an adequate diet. Much credit for the patient's recovery is given to the nursing care he received.

Penicillin and Heparin for Subacute Bacterial Endocarditis

The apparently successful treatment by use of penicillin in conjunction with heparin, an anticoagulant, of 7 patients with subacute bacterial endocarditis (inflammation of the membranous lining of the heart), a condition almost invariably fatal, is reported by Leo Loewe, Philip Rosenblatt, Harry J. Greene and Mortimer Russell, of Brooklyn, in *The Journal* of the American Medical Association.

"Further observation will be required to determine the permanence of results, but the immediate effects suggest uniformly successful sterilization of the blood and relief of clinical manifestations," these men say.

The penicillin was given in requisite dosage by continuous intravenous (into a vein) drip, but one patient also received it by injection into a muscle. Heparin was deposited beneath the skin in most instances but occasionally was given by injection into a vein. In a few of the patients the efficacy of the therapy may have been enhanced by the preliminary use of sulfonamide (given to all 7 patients).

However, Louis N. Katz and Captain Stephen R. Elek (MC), A.U.S., in another article advise that they believe the further use of heparin in subacute bacterial endocarditis should be abandoned. Their statement is based on investigations involving 4 cases in which were used combined heparin and chemotherapy, either with one of the sulfonamide drugs or a combination of a sulfonamide and the intensive administration of one of the arsenical drugs. The cases of subacute bacterial endocarditis were due to Streptococcus viridans. The results of their treatment were negative.

Warns of Danger from Foreign Packages

Discovery of insect pests—possible carriers of infectious diseases—in Christmas parcels shipped home by members of the armed forces serving overseas has led to a warning from the United States Department of Agriculture that wrappings of all such packages should be removed and burned as soon as they are received, the *Army and Navy Journal* reports. "If allowed to escape, the insects and insect eggs stored away in this packing may cause new flare-ups of pests such as the Mediterranean fruit fly, which has been wiped out in continental United States at a cost of millions of dollars," the department's warning stated.

Service men abroad have been given detailed instructions for packaging gifts to be sent home and warned against using foreign filling materials which might contain insects, but, the department points out, "A man packing a gift with one hand while keeping a rifle ready for the enemy with the other has little time to read instructions."

Influenza Epidemic

Apparently there is no single causative agent involved in the present epidemic of respiratory disease, but University of Michigan doctors have found that one etiologic (disease causing) agent is influenza virus type A. Jonas E. Salk, Wilbur J. Menke and Thomas Francis Jr. report that on Nov. 17 and 18, 1943, several cases resembling mild influenza appeared at sick call among members of the Army Specialized Training Program Unit at the University of Michigan. Investigations of the throat washings from 4 of these students showed that 2 of them had influenza virus type A, while the other 2, with clinically similar illnesses, failed to yield any evidence of the presence of influenza A or B.